MADRAS FISHERIES DEPARTMENT.

A STATISTICAL ANALYSIS

OF THE

FISHING INDUSTRY OF TUTICORIN

(SOUTH INDIA)

BY

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A STATISTICAL ANALYSIS OF THE FISHING INDUSTRY OF TUTICORIN (SOUTH INDIA).

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INTRODUCTORY.

When I first engaged in fishery duty in the Madras Presidency I found that no adequate data existed concerning the statistical condition of the fishing industry. The only figures available were those contained in the census reports, and those existing in the records of the fish-curing yards conducted by the Salt and Abkāri Department. The former were of little or no use as they dealt only with the numbers of the population engaged in the industry, while the latter took account only of fish brought to the yards for curing—no notice was taken of the fresh-fish trade, which in populous centres is usually the more important branch.

Without a fairly accurate knowledge of the relative value and quantities of the different kinds of fishes caught and of the relative and absolute importance of the methods employed, I felt that no real progress could be possible in initiating new fishing methods or in introducing improvements in existing ones; in other words an investigation upon scientific lines must precede any experimental innovations conducted empirically. Unfortunately the means at my disposal for such an enquiry were so scanty that I had to confine it to a single port in the first instance. That port had necessarily to be Tuticorin where alone I could improvise the necessary organization for the purpose. The enquiry was commenced in October 1911 and was carried on without interruption throughout the ensuing four years.

Those who are acquainted only with the methods employed in collecting fishery statistics in Great Britain can have little idea of the difficulty experienced in organizing and carrying through such an enquiry in India. A British fishery statistician would probably

appoint, in the case of a small port, an agent from the ranks of the fish-trading community of the place, who, for a small fee, would collect daily from the fish salesmen of the port accounts of the fish they had handled, together with such other details as could be obtained readily from the owners of the local fishing fleet and from the carrying companies serving the port.

In an Indian port like Tuticorin anything like this is impossible. There is no wholesale fish market except the beach, there are no companies or large owners controlling each a number of boats, and while there are certainly some fish salesmen and traders, these men seldom or never keep any accounts, and if they did would probably refuse to acknowledge the fact or else would falsify them lest a demand for income-tax should ensue. Worse still, the fish are seldom sold by weight, measure or number. The catch is usually thrown in a heap on the beach and the 'lot' as it lies is sold by auction—the buyers must appraise its value by the eye, and make their bids accordingly. Accordingly the only way to obtain fairly reliable statistics at Tuticorin was to depute two men to attend respectively at the two main fish landing places and to ascertain as best they could the catch of each fishing boat as it was landed and sold. To arrive at an approximately correct idea of the weight in the case of larger fishes, these were counted and average individuals weighed by means of a spring balance; in the case of small ones, the number of standard basketsful were ascertained as best might be, and by reference to the weight capacity of these standard baskets, the weight of the fish was estimated. I cannot pretend that the results are absolutely accurate, but I believe they are fully as reliable as the generality of British fishery statistics. To prevent errors due to the personal equation, the same enumerators were employed throughout, thereby eliminating one very fruitful source of error in such an enquiry. Constant supervision was also employed and wherever possible any exceptional catches were specially tested and verified. The only figures of which I have any reasonable doubt concerning their accuracy are those collected during the first three months; the enumerators were then gaining experience and probably were not so expert in estimating quantities and separating species as they eventually became. Still I see no adequate reason to exclude these particular statistics and I believe that the tables and summaries given below are sufficiently accurate for all practical purposes and

precise enough for the purpose of generalization. Any minor errors there may be, will be consistent throughout the enquiry and the relative accuracy of the figures will be nowise impaired thereby.

In the main I shall use either the local Tamil names or else their English equivalents when these can be employed without danger of misapprehension. To prevent any possibility of confusion, I append a list of the local vernacular names with the English equivalents which I employ in the text and in the tables, together with the scientific name for each species as used by Day in his *Fishes of British India* (1889)—" Fauna of British India " series.

During the four years the enquiry continued, October 1911 to September 1915, the annual wholesale values of fish landed at Tuticorin were respectively Rs. 40,256, Rs. 42,179, Rs. 49,053 and Rs. 45,146 giving an average per annum of Rs. 44,158.

Not to overload these notes with figures I shall, wherever possible, work upon the average annual figures for this period rather than analyse each year separately.

Adopting this principle the average yearly weight and value of the 36 most important fishes are as follows :—

Names.	Weight in pounds.	Value in rupees.
Vālai	213,525	16,681
Sardines	68,114	4,257
Jew-fishes	59,049	5,115
Sea-perches	54,568	4,613
Rock-cod	36,155	3,954
Seer	24,050	4,509
Sea-breams	23,626	2,215
Sharks and Rays	22,840	1,427
Red Mullet	14,893	679
Anchovies	14,486	930
(Gerridae)	10,868	509
Horse-mackerel	9,169	1,145
Whiting	9,041	989
(Chorinemus)	8,412	1,051
Bonito	6,900	862
Cat-fish	6,152	288
(Lactarius)	6,076	759
(Otolithus)	4,748	296
Grunter	3,526	165

Names.	Weight in pounds.	Value in rupees.
Ribbon fish	3,457	108
Barracuda	3,272	409
Indian Herring	2,921	182
Grey Mullet	2,785	261
Pomfrets	2,524	473
Hilsa	2,505	313
(Diagramma)	2,235	209
Trigger-fish	2,130	89
Butter-fish	1,011	125
Spotted Dory	977	91
Bamin	915	114
Dolphin	706	44
Mackerel	631	49
Sword-fish	530	33
(Lobotes)	348	32
Garfish	129	6
Soles	129	6

The values of these fishes are calculated according to the rates given in the table on page 85 and are rather higher than the actual prices obtained on the beach.

Vālai fishery.—From the above it is seen at a glance that by far the most important fishery carried on from this centre is that of the Vālai *(Chirocentrus dorab)*. This fish, the only species of its genus known in Indian waters, is caught in thin cotton drift nets having a mesh of 1¼ inch from knot to knot. So important is the fishery that this net, the one most largely employed here, is termed the vāla valai or vālai net. Each vālai fishing boat carries a fleet of seven nets, each measuring 24 fathoms along the head rope with a depth of about 5 fathoms when set. The upper edge is buoyed with large wooden floats, the lower edge is weighted with small stones and sometimes partly with shells. The nets are never barked, as the fishermen allege that poor catches are made if they be barked. They believe that the brown tint which results makes the nets too readily visible to the fish. As the sea on the fishing grounds is generally very clear, this is probably an adequate reason. I am endeavouring to meet the difficulty by introducing a green preservative dip for the nets, but even on this the fishermen look askance and its utility has not yet been

sufficiently proved to persuade them to adopt it. Being unbarked the nets have a short life, not extending beyond a single year.

The boats used are converted dug-out canoes; the sides are first " spread " or forced outwards by an ingenious but tedious method of wedging, then ribs of naturally grown curve are bolted on and a deep weather board added along each gunwale. The length of vālai boats ranges from 28 to 30 feet. A single mast with a broad low lug-sail is carried and with a strong favouring breeze they can make 5 to 6 knots through the water. Their great defect is the lack of a keel; being smooth bottomed they have no grip on the water and make far too much leeway when beating against the wind. The one remedy would be to fit them with a centre board or drop keel or better still to instal a small motor and so render them independent of sails.

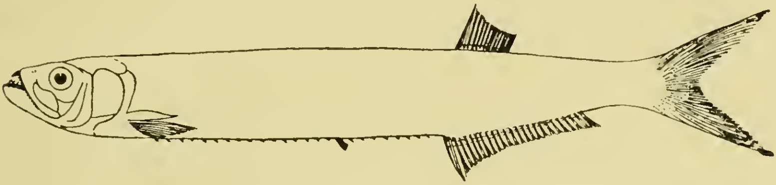


FIG. 1.—VĀLAI (Chirocentrus dorab). × $\frac{1}{6}$.

They carry 5 to 6 men of a crew, this large number being necessitated by the frequent need to propel the boat by oars when the wind is adverse or a calm prevails. Fitted with a motor, a crew of 4 men would be ample, while some increase in the size of the boat would be possible, and this in turn would make the boat more profitable, as it would enable a very considerable increase in the quantity and length of nets carried. The vālai is a fish highly esteemed by the Indian public and a great increase in the supply would readily be absorbed by the market at remunerative rates. On the east coast it occupies the place that the herring does in England—a tasty morsel within the reach of the purse of the great mass of the people. Hence I propose to devote special attention in future to the development of this industry and particularly to the improvement of the nets and boats used; the life history of the fish, whereof we know little, is also receiving attention.

Unlike the French sardine and the oil-sardine of Malabar *(Clupea longiceps)*, the vālai does not harass the fishing industry by failing to appear in due season in certain years. There is

considerable irregularity in the catch of any particular month, from year to year, but what is short in one month in a particular year is frequently made up wholly or in part in another month. There are certainly years comparatively poor, but none can be said to be years of absolute dearth ; curiously enough in the four years' statistics here presented, very rich years alternated with comparatively poor ones—in 1911–12 the catch was 269,000 lb. against 185,000 lb. in the following year, succeeded by a splendid total of 275,000 lb. in 1913–14 with the disappointing amount of only 125,000 lb. in 1914–15.

The following table gives month by month the catches made in the four years named together with the average monthly catch in pounds.

MONTHLY catches in lb. of Vālai *(Chirocentrus dorab)* during four years.

Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Year's total.
1911 ...	5,667	7,909	4,680	1912	25,215	17,366	4,490	8,240	129,598	29,462	18,784	12,522	4,770	26[illegible],703
1912 ...	155	3,076	12,401	1913	21,042	13,851	13,200	36,463	35,418	26,214	19,066	2,133	2,064	185,083
1913 ...	1,991	1,433	2,812	1914	17,716	6,538	8,145	11,451	22,435	176,169	20,214	5,652	513	275,069
1914 ...	594	2,616	3,507	1915	18,162	18,145	4,743	1,551	20,568	12,123	33,857	7,413	1,964	125,243
Average over the 4 years.	2,102	3,759	5,850		20,533	13,975	7,645	14,426	52,005	60,992	22,980	6,930	2,328	213,525

Vālai seasons.—Vālai fishing proceeds throughout the whole year, but except from January to July inclusive (with a break of poor catches in March when the sea is particularly calm and the water crystal clear) fishing is not of much importance; the two periods (*a*) January and February and (*b*) April to July inclusive constitute the true vālai season. Particularly good is the trimester May, June and July, when catches may range as high as 176,000 lb. (nearly 80 tons) for a single month. Examination of the tables shows great fluctuations in the catch during these three months; this is due largely, if not entirely, to variability in the weather conditions dependent on the onset and character of the south-west monsoon in different years. How the vālai fishery overshadows all the other fisheries is graphically depicted in Table IX.

Offshore lining.—Next in importance to the vālai fishery is lining for sea-perch, rock-cod and jew-fishes. This is carried on upon rocky banks more or less covered with Sargasso and various

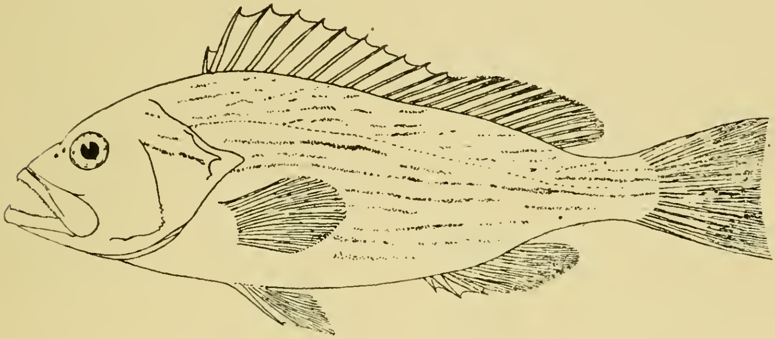


FIG. 2.—KALAWA or INDIAN ROCK-COD (Serranus undulosus). × 1/6.

brown and red sea-weeds, forests of the branched tubes of *Eunice tubifex*, frequent solitary coral colonies, varied and numerous massive sponges and many showy Alcyonarians and tree-like Gorgonids. On such a rough bottom long-lining is not possible and the men have perforce to use hand lines.

Its importance in bulk of fish caught and in value, together with the fluctuations experienced from month to month, is shown in the following tabulation :—

Offshore lining at Tuticorin.

AVERAGES over four years—weight and value.

Month.	Quantity in pounds.	Value in rupees.
October	15,129	1,044
November	3,211	235
December	2,171	166
January	6,000	493
February	7,959	632
March	10,841	830
April	10,854	978
May	8,753	840
June	3,823	416
July	5,608	790
August	17,966	1,485
September	25,149	2,214
Average annual total ...	117,464	10,023

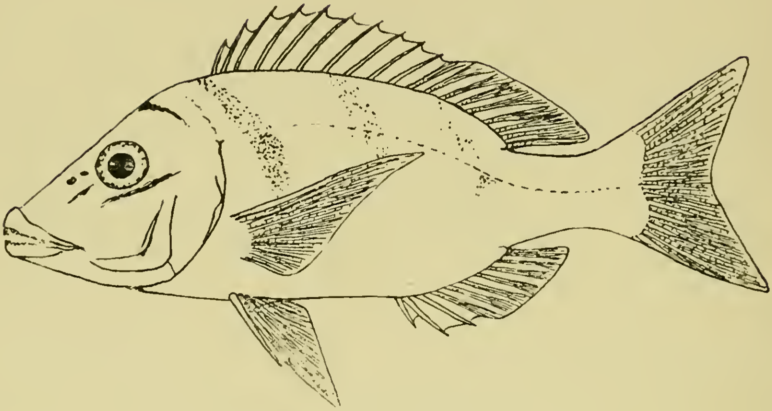


FIG. 3.—VELAMIN (Lethrinus nebulosus). × 1/6.

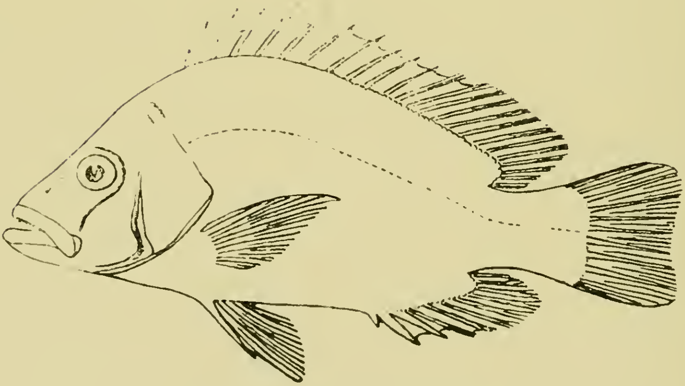


FIG. 4.—CHEPPILI (Lutjanus annularis). × 1/6.

From these particulars it is seen that this fishery, like that for vālai, is an all-year-round one; the fishes concerned are not migratory under ordinary circumstances and the fishery is controlled in the main by weather conditions, being best in the light wind seasons between the monsoons. The better one lasts from the middle of August to the end of October; it begins as the strength of the south-west monsoon dies down in August and continues till strong and steady north-east winds set in towards the end of October. A second good fishing season occurs during the calm weather period of March, April and May, but this favourable weather is largely offset by the perfect clearness of the water—always a serious drawback in bottom fishing.

The fishes caught consist in the main of Kalawa *(Serranus undulosus)*, Cheppili *(Lutjanus annularis)*, Chēri *(Sciaena miles)*, Moonjan *(Serranus hexagonatus)*, Thambuvan *(Serranus polleni)*, Tholan *(Diagramma punctatum)*, Velamin *(Lethrinus nebulosus)*, Panna *(Otolithus ruber)*, Karumuthal *(Chrysophrys berda)*, with occasional rays and dogfishes. Generally the majority of the round fish caught by offshore lining may be grouped as rockfishes from their habit of frequenting rocky ground; the three families of Serranidae, Sciaenidae and Sparidae contribute the bulk of these fishes.

The bait used consists chiefly of small fishes, the most valued being the Kola or Anchovy *(Engraulis dussumieri)*, Thondai *(Dussumieria acuta)*, Chalai *(Clupea atricauda* and *Clupea sindensis)*, Sudai *(Clupea fimbriata)*, and pieces of Vālai *(Chirocentrus dorab)*.

The following table shows the contributions made respectively by the nine most abundant rockfishes to the spoils of this method of fishing :—

AVERAGE monthly catches of nine species of Rockfishes throughout the year, based on four years' statistics, 1911—15.

Name.			October	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Total for year.
Kalawa (Serranus undulosus).	Weight ...	Lb.	5,469	1,968	1,000	2,749	3,627	2,927	2,846	1,845	385	1,150	4,444	7,745	36,155
	Value ...	Rs.	598	215	110	301	397	320	312	201	42	125	486	847	3,954
Chēri (Sciaena miles and spp.).	Weight ...	Lb.	71	49	67	54	53	82	29	19	20	54	40	24	562
	Value ...	Rs.	7	4	6	5	5	8	3	2	2	5	4	2	53
Cheppili (Lutjanus annularis).	Weight ...	Lb.	1,135	326	103	509	680	1,499	980	313	288	775	2,151	3,353	12,112
	Value ...	Rs.	90	26	8	39	53	117	76	24	23	61	168	262	947
Moonjan (Serranus hexagonatus).	Weight ...	Lb.	132	109	149	309	145	239	81	34	6	63	266	560	2,093
	Value ...	Rs.	10	9	12	24	11	19	6	3	...	5	21	43	163
Thambuvan (Serranus polleni).	Weight ...	Lb.	815	338	569	1,430	1,866	2,236	1,306	618	56	119	415	1,378	11,146
	Value ...	Rs.	64	27	44	112	145	175	102	49	4	9	32	108	871
Tholan (Diagramma punctatum).	Weight ...	Lb.	8	21	19	45	123	32	129	1,125	588	87	29	29	2,235
	Value ..	Rs.	1	2	2	4	11	3	12	105	55	8	3	3	209
Velamin (Lethrinus nebulosus)	Weight ...	Lb.	1,583	465	192	570	793	1,782	1,718	1,514	1,247	2,177	3,453	3,541	19,035
	Value ...	Rs.	146	44	18	54	74	168	161	142	117	204	324	332	1,784
Panna (Otolithus ruber)...	Weight ...	Lb.	648	874	970	589	513	394	210	127	96	106	72	149	4,748
	Value ...	Rs.	40	55	61	37	32	25	13	8	6	7	4	9	297
Karumuthal (Chrysophrys berda).	Weight ...	Lb.	24	36	22	17	44	12	16	7	11	28	6	7	230
	Value ...	Rs.	2	3	2	2	4	1	1	1	1	2	1	1	21

During the two special seasons for offshore lining the number of boats employed rises to 18; when the weather is adverse, as during the height of the south-west and north-east monsoons, a number of the lining fishermen resort to other methods of fishing or take up lighterage work, but there are seldom less than five canoes employed even in the height of the monsoon. It has to be remembered that in July for example, when the south-west monsoon

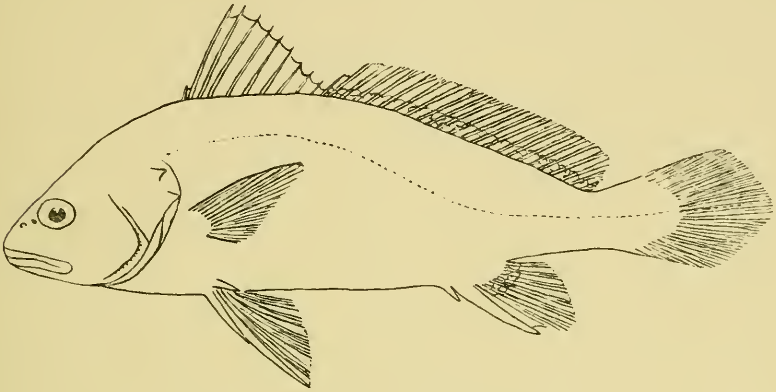


FIG. 5.—CHĒRI (Sciaena miles). × ¼.

is at its height, wind and sea are not continuously violent as text-books would have us believe. There are many interludes of comparatively quiet weather and of these the line fishermen take ample opportunity. Their craft are excellent sea-boats not to be compared for a moment with the dug-out canoes and crank slab-sided punt-like fishing boats of the Malabar coast. They are really boats and not canoes; their crews are expert sailors in the true sense of the word and despise the slaves of the oar. Their boats are of the same type as those of the vālai drift-netters but of slightly smaller size. They run to about 28 feet overall, with a beam of 4 feet and depth of 3 to 3½ feet. Each crew consists of from five to eight men according to the size of the boat.

Inshore Lining.—A second important group of line fishermen concern themselves with inshore fishing for a smaller class of fish than those that frequent the rocky pearl bank areas. These men number about 40 and work 13 small boats manned each by two to three men. The boats are the smallest of those engaged in the Tuticorin fisheries, but except in size are similar to the larger ones already described. They range between 14 and 16 feet in length, with an extreme breadth at the gunwale of 3 to 3¼ feet, depth 2

to 2¼ feet. They carry one small mast furnished with the usual squarish lug-sail.

This inshore lining is prosecuted with greatest success from November to March inclusive, i.e., during the period of the north-east monsoon when the water of Tuticorin bay is always more or less turbid. Another and probably more potent factor making for good catches during the north-east monsoon period is that this season and particularly the months from November to February inclusive, coincides with the rains; the great bulk of flood water from the Tambraparni River and the local streams is then emptied into the sea. This land drainage causes a notable increase of organic matter in the inshore water, which, too, is banked up into the Tinnevelly bays and coast indentations by the off-sea winds then prevailing. As a direct consequence the neritic or inshore plankton increases enormously; firstly, filamentous algæ, diatoms, peridinians, and other protista, and then, feeding upon them, a whole host of the smaller crustaceans—copepods, schizopods and prawns. These small fry are the normal food of the small fishes caught by the inshore liners, and the increase and local concentration of these are the direct consequences of this superabundance of foodstuff in shallow water. From the following table it will be seen however that a fairly good second fishing season occurs in June and July. The cause for this is more than a little obscure, but I am inclined to think it is due in part to freshets that then come down the Tambraparni from the Travancore hills and provide a second though smaller supply of organic matter for the sustenance and increase of the neritic plankton and the consequent attraction of small fish.

QUANTITY and value of small fishes caught month by month by inshore lining based on statistics for the four years 1911—15.

Month.	Weight in pounds.	Value in rupees.
October	1,953	127
November	14,760	955
December	15,463	1,046
January	25,772	1.766
February	15.876	970
March	10,515	695
April	984	77
May	339	24

Month.	Weight in pounds.	Value in rupees.
June	4,335	276
July	3,344	284
August	340	26
September	...	...
Total ...	93,681	6,236

The chief species caught are Kathalai *(Sciaena maculata)*, Kurumin *(Pristipoma maculatum)*, Kelakkan *(Sillago sihama)*, Nagarai *(Upeneoides* spp.*)*, Kili *(Therapon puta)*, Kuthippu *(Lactarius delicatulus)* and Karal *(Equula* spp. and *Gazza* spp.*)*.

The following table gives the quantities in pounds of the seven principal fish caught by this method of fishing throughout the year:—

Name.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Total for the year.
													LB.
Kathalai ..	1,901	7,448	9,471	18,200	10,668	5,507	756	18	2,030	1,608	216	..	57,823
Kurumin ..	447	496	713	553	335	210	94	2	75	119	29	..	3,073
Kelakkan ..	767	1,993	1,442	1,933	1,060	862	113	16	412	314	93	..	9,005
Nagarai	1,456	516	304	154	392	1,219	644	12	11	27	1,502	..	6,237
Kili	1,340	4,287	2,653	3,896	2,448	1,837	245	113	1,577	886	97	..	19,379
Kuthippu ..	2,326	625	97	196	136	397	182	167	202	216	161	..	4,705
Karal	2,106	1,443	902	462	594	2,042	812	468	21	69	380	..	9,299

The bait used in this handline fishing consists almost exclusively of Penæid prawns belonging to the three species *Penaeus indicus*, *Penaeus carinatus* and *Penaeus affinis*. The catching of this bait is the special occupation of about 20 men who obtain it by a small hand seine called *Vangu valai*, worked by two men. Formerly the line fishermen often experienced much delay in obtaining their supply of bait as they had to wait idle ashore each morning till a sufficient supply had been caught by the Vangu valai men. This delay is now largely avoided by the introduction by this department of prawn store baskets, wherein prawns caught overnight can be kept alive till required by the line fishermen.

Trolling.—Until 1912 this fishery was in the hands of Sinhalese fishermen who came across annually from Ceylon with their outrigger canoes or kūllas, at the beginning of the north-east monsoon and who returned home in March. The year named was characterized by an exceptionally severe outbreak of cholera in Tuticorin; this, combined with the restrictive quarantine measures adopted by the Ceylon authorities against passengers coming from Tuticorin,

had such a deterrent effect that no Sinhalese fishermen came that season and, once broken, the custom has not been resumed.

As trolling provides the bulk of the fish (seer) most esteemed by Europeans and as the market price in consequence is better than for any other fish, there was distinct inducement to the local fishermen to supply the want caused by the defection of the Sinhalese men. For the first year little progress was made, and the catch for the year October 1912 to September 1913 fell by 50 per cent compared with the preceding year's catch (11,835 lb. as against 24,438 lb.). But a year's experience revealed to the local men, that, contrary to their own belief, no special virtue is inherent to the Sinhalese outrigger as against their own boats; the latter sail quite fast enough with a good wind to make trolling for seer a success. The success of the pioneer boats was so obvious that the number engaged in this branch of fishing rapidly increased and if Sinhalese fishermen ever come again to Tuticorin, they will find themselves supplanted, and with strong competition to face.

The following table shows the quantity and value of fish obtained by this method during a four years' period, viz.:—

Year.		Quantity.	Value.
		LB.	RS.
October 1911 to September 1912	...	24,438	2,294
October 1912 to September 1913	...	11,835	1,220
October 1913 to September 1914	...	33,673	3,519
October 1914 to September 1915	...	24,866	3,291
Average annual total.	...	23,703	2,581

To show how the catches are distributed throughout the different months, the following tabulation has been prepared:—

AVERAGE monthly weight of fish obtained by Trolling based upon the four years' statistics, 1911—1915.

Month.	Weight.	Month.	Weight.
	LB.		LB.
October	1,067	April	Nil.
November	10,367	May	177
December	6,886	June	49
January	3,647	July	34
February	961	August	Nil.
March	467	September ...	48
Total for north-east monsoon season.	23,395	Total for south-west monsoon season.	308

The reason for the vastly better catches during the north-east monsoon is that then the sea is clear and the wind just strong enough to give the boats sufficient speed through the water and yet carry full sail. In the south-west monsoon poor fishing results partly from the frequent turbidity of the water and partly (more) from the fact that wind and sea are then usually too high to permit the local boats to carry full sail ; it is at these times that the out-rigger canoes of Ceylon and Palk Bay come to the front by reason of their greater power to stand up to heavy weather.

Madi Valai.—This fishery ranks fourth at Tuticorin in order of importance, both in value and in weight of fish landed on the beach. It is carried on entirely by catamaran fishermen belonging to neighbouring fishing villages, chiefly Pinnacoil, Sippikulam and Vaipar. These men, when weather conditions are favourable, resort to Tuticorin as being a much better market for fresh fish than

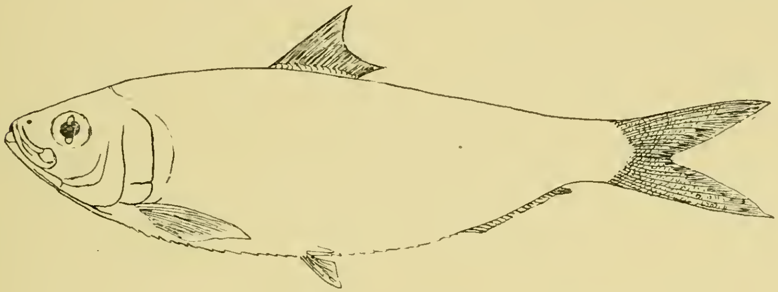


FIG. 6.—SUDAI (Clupea fimbriata). × $\frac{2}{3}$.

their own villages. In the height of the season, October to March, as many as 20 catamarans make Tuticorin their fishing head-quarters. These catamarans are of special type, and differ entirely from those used on the Coromandel coast. Instead of being constructed in raft shape of five comparatively slender logs as the latter usually are, these Tinnevelly catamarans consist of three massive logs, kept permanently tied together; the centre one is fitted at a lower level than the two side ones, and in this way a distinct trough-shaped hollow is formed, imparting to the catamaran the suggestion of a primitive boat. Each is manned usually by two men. Catamarans are worked in pairs in madi valai fishing, the net employed being a primitive trawl worked much as an otter trawl is, with the substitution of catamarans in place of otter boards. Each end of the net is aboard one catamaran; in working it, the two catamarans sail on a parallel course at an appropriate

distance apart, closing in as the men haul the net. The contents are miscellaneous round fish; among the chief species taken are Chalai *(Clupea atricauda* and *Clupea sindensis)*, Sudai *(Clupea fimbriata)*, Thondai *(Dussumieria acuta)*, Venganai *(Pellona indica)*, Karal *(Equula* spp. and *Gazza* spp.*)*, and Nagarai *(Upeneoides* spp.*)*.

The best catches are made during the north-east monsoon and the intermonsoon periods of variable weather; in the height of the south-west monsoon the weather is too rough to permit of regular and effective work.

The weight and value of the catches made during the four years 1911—1915 were as follows :—

Year.	Weight in pounds.		Value in rupees.	
	Brought ashore by fishing boats.	Bought at sea by middlemen	Brought in by fishing boats.	Brought in by middlemen.
October 1911 to September 1912 ...	98,658	30,818	5,492	1,838
October 1912 to September 1913 ...	71,222	65,395	3,307	3,394
October 1913 to September 1914 ...	41,087	40,064	2,827	2,838
October 1914 to September 1915 ...	37,258	33,399	2,523	2,505
Average annual total ...	62,056	42,419	3,537	2,644

The average catch per month is shown in the following tabulation based upon four years' statistics (1911—15) :—

Month.	Weight. LB.	Month.	Weight. LB.
October	13,450	April	9,538
November	15,388	May	1,358
December	10,091	June	118
January	14,799	July	173
February	12,185	August	4,375
March	13,202	September ...	9,798
Total for north-east monsoon season.	79,115	Total for south-west monsoon season.	25,360

Kola Valai.—The Kola net is a small-meshed drift net employed in catching sardines and anchovies, kola being the local name for one of the anchovies *(Engraulis dussumieri)*. These fishes are in great demand among the lower classes because of their tastiness and low price.

About twelve boats are employed in this fishery which is in full swing from the beginning of September till the middle of February when it begins rapidly to diminish. From April to July inclusive the fishery is unproductive, with March and August both very poor months.

During the season about twelve boats are employed. Each runs to a length of from 17 to 18 feet, and carries a fleet of 8 to 9 nets, measuring (each) 13 to 14 fathoms in length by 3½ to 4 fathoms deep. The mesh is ¾ inch from knot to knot and is made of No. 14 cotton. The nets are never barked. The crew of each boat consists of three or four men.

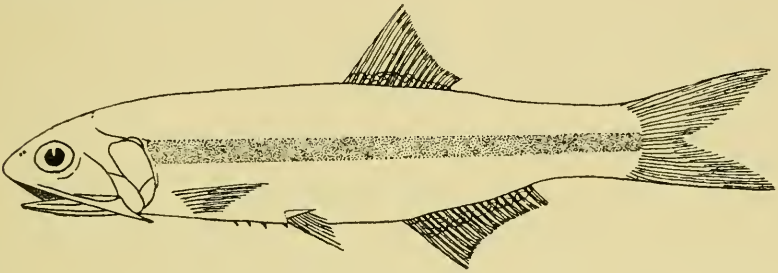


FIG. 7.—INDIAN ANCHOVY (Engraulis dussumieri). × $\frac{2}{3}$

The catches for the four years 1911—15 amounted to the following quantities, valued as shown, viz. :—

Year.		Weight in pounds.	Value in rupees.
October 1911 to September 1912	...	30,322	1,350
October 1912 to September 1913	...	31,588	1,618
October 1913 to September 1914	...	62,257	3,828
October 1914 to September 1915	...	32,498	1,834
Average per annum	...	39,166	2,157

The distribution of the catch throughout the year averaged as follows, the figures being based on four years' statistics, 1911—15 :—

Month.	Weight. LB.	Month.	Weight. LB.
October	8,540	April	774
November	4,662	May	12
December	1,497	June	...
January	8,808	July	146
February	3,543	August	1,615
March	1,297	September ...	8,272
Total for north-east monsoon period.	28,347	Total for south-west monsoon period.	10,819

Minor fishing methods.—The foregoing methods are the only ones of importance employed at Tuticorin, the others practised being of minor economic value. The chief of these latter are the Pachu valai, the Vangu valai and the Kalla valai.

The first named is a small drift net of mesh 1½ inch from knot to knot, employed in catching Puvali *(Pellona elongata)*, Kurumin *(Pristipoma maculatum)*, Karal *(Equula* spp. and *Gazza* spp.), Sudai *(Clupea fimbriata)*, Chalai *(Clupea atricauda* and *Clupea sindensis)*, and Venganai *(Pellona indica)*. The season runs from February to April. The catch in 1914-15 amounted to 4,771 lb. of a value of Rs. 374.

The Vangu valai is of greater importance as the inshore liners depend upon the produce of this net for their bait. It is a small hand seine worked by two men in lagoons and in the shallows of the harbour. Its chief catch consists of prawns (Penaeids) and fish fry. In regard to the latter it is most destructive and some restriction upon its employment will probably be necessary when the time be ripe for the introduction of regulative fishery measures.

The average annual catch of prawns and fish fry is estimated to be over 35,000 lb. having a value of Rs. 2,500. Were the catch to consist wholly of prawns the value would be considerably greater, as the line fishermen willingly give 1½ anna per pound for them as bait; fish fry sell at much less than this rate—from six to nine pies per lb. only—thereby reducing the average to about eight pies per lb.

The Kalla valai or "thief net," is a net used by four men in breast-high water. It is held upright by two men as a semicircular wall against which the fish are driven by the other two men, the two ends being brought together quickly at the same time. Mullet are caught in some quantity by this method which produced in 1914-15 a weight of 8,403 lb. of fish, valued at Rs. 739.

Fish bought at sea.—In addition to the fish caught by boats working from Tuticorin as their headquarters, a considerable quantity is bought at sea by boats which go out specially to purchase fish from fishermen working from Pinnacoil and other neighbouring villages.

During the four years 1911—15, an annual average of 42,419 lb. of fish was brought into Tuticorin by these carriers, the value being estimated at Rs. 2,644.

Wholesale rates.—Owing to the fact that no fish is sold either wholesale or retail by weight or by measure, and that all is sold singly or by the heap according to the judgment of the eye, a fair average valuation by weight has been difficult to fix, especially as there are marked fluctuations according to demand and variations in supply. The list given below is, I believe, a fairly accurate approximation to the mean price for each kind of fish quoted; it enables us also to judge of the relative value put upon the different species locally. The forty-one rates quoted are all per pound avoirdupois, and the qualities are tabulated according to price, beginning with the most expensive.

Average wholesale prices ruling at Tuticorin for forty-one species of fishes. Rates quoted are per pound avoirdupois:—

English name.	Tamil.	Rate in annas.
Seer	Seela	2½—3
Pomfret	Vaval	2½—3
Hilsa	Ullam	2—2½
(Chorinemus)	Katta	1¾—2
Barracuda	Ulli	1½—2
Bonito	Surai	1½—2
Tunny	Keluvalai	1½—2
Butter-fish	Kadavula	1¾—2
Bamin	Kalai	1½—2
Horse-mackerel	Parai	1½—2
(Lactarius)	Kuthippu	1½—2
Indian Whiting	Kelakkan	1½—1¾
Soles	Adal	¾—1¾
Rock Cod	Kalawa	1½—1¾
Sea Perches	Bhandari, Thambuvan, Moonjan, Cheppili, Kili.	1½
(Diagramma)	Tholan, Mathanam	1½
Sea Breams	Velamin, Karumuthal, Theenan.	1½—1¾
(Lobotes)	Sadayan	1—1½
Grey Mullet	Athumin, Manalai	1—1½
Spotted Dory	Painthai	1—1½
Vālai	Vālai	1¼—1¾
Indian Herring	Puvali	1—1¼
Jew-fishes	Seri, Kathalai	1—1¼
Mackerel	Ailai	1—1¼

English name.	Tamil.	Rate in annas.
Sardines	Chalai, Sudai, Thondai ...	$\frac{3}{4}$—1
(Otolithus)	Panna	1—1$\frac{1}{6}$
Red Mullet	Nagarai, Lomian	$\frac{3}{4}$—1
Grunter	Kurumin	$\frac{3}{4}$—1
Sharks	Sura	$\frac{3}{4}$—1
Saw-fish	Vela	$\frac{3}{4}$—1
Plough-fish	Uluvai, Mattiamichael ...	$\frac{3}{4}$—1
Rays	Thirukkai	$\frac{3}{4}$—1
Sword-fish	Thalapathu	1
Dolphin	Ailis	1
		Rate in pies.
Anchovies	Kola	6—9
White-bait	Nethili	6—9
Gar-fish	Muthal	6—9
(Gerridae)	Karal, Udagam	6—9
Cat-fish	Keluthu, Thedu	8—9
Trigger fish	Kilathi	6—8
Ribbon fish	Savalai	6

NUMBER AND DISTRIBUTION OF THE FISHERMEN, ETC.

The fishermen of Tuticorin are almost exclusively Parawas by caste, and Roman Catholics in religion. A few Muhammadans occasionally work as paid hands. The Parawa fishers total about 520 men, divided as follows into sub-sections according to the method of fishing they practise principally :—

Drift net fishermen :—	
Vala valai fishers	180
Kola and Pachu valai fishers	72
Vangu valai fishermen	20
Line fishermen :—	
Offshore liners	126
Inshore liners	40
Trollers	82
Total ...	520

No figures are given above for Madi valai men as none of these belong to Tuticorin.

The numbers given represent the average of men working when the respective fisheries are in vigorous prosecution; they fluctuate considerably however from time to time, as they use different nets at different seasons and because a certain number of the men take up other work either when fishing is poor, or when the counterattraction is great. For example when the port is busy with exports or imports and the demand for lighterage is great, a certain proportion of the fisher class find it more profitable to act as lighter crews. Or again they may quarry coral on the reefs, or enlist as chank divers. A pearl fishery in Ceylon causes a great exodus of fishermen and lightermen as nearly all are fairly expert divers. At such a time fish become scarce in the Tuticorin market and the discharge and loading of steamer cargoes a matter of much difficulty, owing to the consequent shortage of labour.

The men are by no means thrifty, but a living wage is easily made, sufficient to ensure an adequate dietary and to keep their families in comparative comfort, judging this by the ordinary standard of the labouring classes of the neighbourhood. On an average I calculate that they earn about 12 annas per head per working day. Apart from food and clothing, a considerable portion of their earnings goes in the purchase of toddy and this undoubtedly is the principal cause preventing a considerable improvement in their economic condition. Taken generally they are a fine sturdy race with a marked sense of independence; inclined to be quarrelsome and noisy but easy to control if they be treated with sympathy and firmness. They are happy in being largely 'freemen' in the financial sense. Their catches are sold by auction immediately they come to land—there is no sowcar middleman who, because of money advanced, is able to take their catch at his own rates and keep them in perpetual penury as happens so often on the Ramnad coast. They work on a fair share system whereby in the case of net fishermen, the proceeds are divided thus:—half the total to the owner of the nets for their upkeep and replacement and the other half in equal shares to each fisherman and to the boatowner who ranks in this division of proceeds on an equal basis with a fisherman. If they consider the auction rates too low, due usually to some attempt at combination to depress rates on the part of the dealers, I have several times found the fishermen decline to sell at such rates and rush the fish off to the market to sell direct to the public. The life is however a

hand-to-mouth existence, and it is the exception to find that any of them save money. Those who do are usually the men who own the boats and nets.

How far improvements are possible in the local industry it is difficult to determine. Longer fleets of nets in the case of the drift netters seem the most promising line of advance, but at present this is barred by the fact that the size of boat now in use is the largest which oar-power can manage during calms and head winds—these boats carry as many nets as the accommodation will permit. As suggested above, motor power instead of oars would give greater net accommodation and would save several men's labour and wages. Against this at present is the difficulty experienced in finding men able to work and care properly for a marine motor upon a low wage. The only remedy I see is the establishment of a marine motor school where men of the fisher class shall be taught the mechanism and working of a simple type of marine internal combustion engine. Nothing of this at present exists and fishery progress is hampered directly and most seriously by this want. Given a supply of fishermen mechanics, I am convinced there are moneyed men in the ranks of the fisher castes who would be willing to put motor fishing boats into commission. At present the average marine motor driver knows just enough to spoil his engine besides having an inordinate idea of his own value.

TUTICORIN,
7th September 1916. JAMES HORNELL.

LIST OF TABLES ANNEXED.

I. List of the principal food fishes caught at Tuticorin, arranged alphabetically under their vernacular names, together with their English and scientific synonyms and the families to which they belong respectively.

II. Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15.

III. Detailed tabulation of the weight and value of the catches of fish landed month by month at Tuticorin during the four years 1911—15, classified according to the method of capture.

IV. Summary of the annual weight and value of fish landed at Tuticorin for the four years 1911—15, classified according to the method of capture.

V. Average monthly and annual quantity of the produce of the chief fishing methods employed at Tuticorin over the four years' period 1911—15.

VI. Average monthly and annual value of the produce of the chief fishing methods employed at Tuticorin over the four years' period 1911—15.

VII. Diagram showing graphically the relative monthly importance of the ten principal food fishes landed at Tuticorin over an average of four years ending September 1915.

VIII. Diagram showing graphically the comparative weight and value per annum of 36 kinds of food fishes landed at Tuticorin based on the averages of four years' records, 1911—15.

IX. Diagram showing graphically the seasons and relative productive value of the seven principal methods of fishing practised off Tuticorin, based on the average of four years' records, 1911—15.

TABLE I.—List of the principal food fishes caught at Tuticorin arranged alphabetically under their vernacular names, together with their English and scientific synonyms, which latter are according to the nomenclature given in Day's "Fishes of British India," London, 1889.

Vernacular names.	Scientific names.	English popular names.	Family.
Adal	Cynoglossus spp.	Sole	Pleuronectidae.
Ailai	Scomber microlepidotus	Indian Mackerel	Scombridae
Ailis	Coryphaena hippurus	Dolphin	Coryphaenidae.
Athumin	Mugil borneensis and M. speigleri.	Grey Mullet	Mugilidae.
Bhandari	Serranus gilberti	Sea-perch	Serranidae.
Chalai	Clupea sindensis and C. atricauda.	Sardine	Clupeidae.
Cheppili	Lutjanus annularis	...	Serranidae.
Cheri	Sciaena miles	Jew-fish	Sciaenidae.
...	Pristipoma hasta	Grunter	Pristipomatidae.
Chevani	Psettus argenteus and Trachynotus ovatus.	...	Carangidae.
Elathi	Scatophagus argus	Banded Dory	Squamipinnes.
Iranian	Lutjanus gibbus	..	Serranidae.
Kalar	Chatoessus chacunda, Ch. nasus and Clupea kanagurta.	Sardines	Clupeidae.
Kalawa	Serranus undulosus and S. semipunctatus.	Indian Rock-cod.	Serranidae.
Kalvetti	Platycephalus scaber and P. insidiator.	Flat head	Cottidae.
Kannadikaral	Mene maculata	.	Coryphaenidae.
Karal	Equula spp. and Gazza spp.	.	Gerridae.
Karuvalan thirukkai.	Trygon walga	Stingray	Trygonidae.
Karumuthal	Chrysophrys berda	Silver bream	Sparidae.
Katta	Chorinemus lysan and C. tala.	...	Carangidae.
Katti Kalai	Polynemus spp.	Indian Salmon, Bamin.	Polynemidae.
Kattikaral	Equula daura	..	Gerridae.
Kelakkan	Sillago sihama	Indian Whiting	Sillaginidae.
Keluthu and Thedu.	Arius spp.	Cat-fish	Siluridae.
Keluvalai	Thunnus thynnus	Tunny	Scombridae.
Kilathi	Balistes spp.	File-fish, Trigger-fish.	Sclerodermi.
Kili	Therapon puta, T. jarbua and T. quadrilineatus.	...	Serranidae.
Kilinjan	Julis lunaris, Platyglossus dussumieri and Pseudoscarus dussumieri.	Parrot fishes	Labridae.
Kirimin Chalai	Clupea leiogaster	Sardine	Clupeidae.
Koimin	Clupea ilisha (juv.)	Hilsa	Clupeidae.
Kola	Engraulis dussumieri, E. taty and E. setirostris.	Anchovies	Clupeidae.

Vernacular names.	Scientific names.	English popular names.	Family.
Koliamuthal ...	Belone strongylura and Hemirhamphus spp.	Gar-fishes ...	Scombresocidae.
Komariansura ...	Ginglymostoma concolor.	...	Scyllidae.
Kombansura ...	Zygaena blochii	Hammer-headed shark.	Carchariidae.
Kopparaikulla ...	Histiophorus brevirostris.	Swordfish .	Xiphiidae.
Koppulisura ...	Triaenodon obtusus .		Carchariidae.
Kopputhirukkai	Dicerobatis eregoodoo ...	Ox-ray ...	Myliobatidae.
Kosura	Carcharias melanopterus ..	...	Carchariidae.
Kothalai	Lethrinus miniatus ...	...	Sparidae.
Kurangansura ...	Chiloscyllium indicum .	Dogfish	Scyllidae.
Kurumin ...	Pristipoma guoraca	Grunter	Pristipomatidae.
Kurungai .. {	Clupea ilisha (juv.)	. .	Clupeidae.
	Chatoessus chacunda ...		
Kutha	Engraulis dussumieri ...	Anchovy & White-bait.	Clupeidae.
Kūral	Sciaena sp.	Jew-fish	Sciaenidae.
Kuruvalai	Lutjanus rivulatus	...	Serranidae.
Kuthippu	Lactarius delicatulus ..		Lactariidae.
Lomian ... {	Upeneoides sp.	Red Mullet .	Mullidae.
	Synagris tolu	...	Percidae.
Manalai	Mugil speigleri	Grey Mullet .	Mugilidae.
Manja Kili ...	Pristipoma dussumieri ..	...	Pristipomatidae.
Mapillaithambuvan.	Serranus miniatus... ..	...	Serranidae.
Mathanam ...	Diagramma crassispinum and D. griseum.	...	Pristipomatidae.
Mattia-michael	Rhyncobatus ancylostomus.	...	Rhinobatidae.
Menna	Elops saurus	...	Clupeidae.
Moonjan	Serranus hexagonatus ..	Sea-perch ...	Serranidae.
Muthal	Hemirhamphus xanthopterus.	Half-beak ...	Scombresocidae.
Nagarai	Upeneoides vittatus ...	Red Mullet ...	Mullidae.
Neduvalithirukkai.	Myliobatis maculata .	...	Myliobatidae.
Netheli	Engraulis purava	Anchovy & White-bait.	Clupeidae.
Neyadal	Psettodes erumei ...	..	Pleuronectidae.
Oramin	Teuthis oramin ..	...	Teuthididae.
Orandai	Acanthurus lineatus ...	Spine-tail... ...	Acanthuridae.
Orattukappulli ...	Lethrinus miniatus ...	Sea-bream ...	Sparidae.
Oriavelamin ...	Lethrinus harak ...	Sea-bream ...	Sparidae.
Otavaikaral ..	Gazza equulaeformis	.	Gerridae.
Pai Chalai ..	Clupea longiceps ...	Oil-sardine ...	Clupeidae.
Painthe ...	Drepane punctata ...	Spotted Dory	Drepanidae.
Palamin ...	Elops saurus and Chanos salmoneus	...	Clupeidae.
Palsura . ..	Mustelus manazo .	...	Carchariidae.
Pamuttan ..	Scolopsis bimaculatus ...	...	Sparidae
Panna .. .	Otolithus ruber.	...	Sciaenidae.
Pannan Thondai ...	Dussumieria hasseltii ...	Sardine	Clupeidae.
Pannikilathi ...	Balistes stellaris	Trigger-fish ...	Sclerodermi.
Parai	Caranx carangus, C. hippos, C. djedaba and C. leptolepis.	Horse-mackerel ...	Carangidae.
Parullam	Myripristis murdjan and Holocentrum rubrum.	..	Berycidae.
Pattani Kili ...	Lutjanus quinquelinearis.	...	Serranidae.
Poovali	Pellona elongata & P. filigera.	Indian Herring.	Clupeidae.

Vernacular Names.	Scientific names.	English popular names.	Family.
Puchikaral	Equula insidiatrix and E. ruconius.	...	Gerridae.
Pullikalawa ...	Serranus angularis	Spotted sea-perch.	Serranidae.
Pullikathálai ...	Sciaena maculata ...	Spotted jew-fish ..	Scienidae.
Pullikurumin ...	Pristipoma maculatum	Grunter ...	Pristipomatidae.
Pullithirukkai ...	Trygon uarnak	Stingray	Trygonidae.
Rajalikurungan-sura.	Stegostoma tigrinum ..	Zebra shark ...	Scyllidae.
Sadavalanthirukkai.	Trygon sephen	..	Trygonidae.
Sadayan	Lobotes surinamensis ...		Lobotidae.
Savalai	Trichiurus savala ...	Ribbon-fish	Trichiuridae.
Seela	Cybium commersonii ...	Seer	Scombridae.
Seenathambuvan ..	Serranus miniatus ...	...	Serranidae.
Senjikilathi ...	Balistes erythrodon	...	Sclerodermi.
Sudai	Clupea fimbriata	Sardine	Clupeidae.
Sukkankiri Parai ...	Caranx gallus ...	Horse-mackerel ...	Carangidae.
Sumbakilathi ..	Triacanthus brevirostris ..	...	Sclerodermi.
Sura	Selachoidei	Sharks	Sub-order Selachoidei.
Surai	Thunnus pelamis ...	Bonito	Scombridae.
Thalapathu ...	Xiphias gladius ...	Sword-fish ...	Xiphiidae.
Thambuvan ...	Serranus polleni	Sea-perch ...	Serranidae.
Tharalai	Ephippus orbis	...	Squamipinnes.
Theenan	Lethrinus rostratus ...	Pig-faced bream ...	Sparidae.
Thirukkai	......	Stingrays and Eagle rays.	Trygonidae and Myliobatidae.
Tholan	Diagramma punctatum ...	...	Pristipomatidae.
Thondai	Dussumieria acuta ...	Sardine	Clupeidae.
Thotta	Engraulis mystax, E. taty and Opisthopterus tartoor.	..	Clupeidae.
Udagam	Sphaerodon grandoculis...	...	Sparidae.
Udagam	Gerres filamentosus ...	..	Gerridae.
Ulla and Ulli ...	Sphyraena jello and S. obtusata.	Barracuda ...	Sphyraenidae.
Ullam	Clupea ilisha ...	Hilsa .	Clupeidae.
Uluvai	Gobius sp. ...	Goby . .	Gobiidae.
Do.	Rhinobatus ...	Plough-fish ...	Rhinobatidae.
Do.	Rhyncobatus djeddensis...	Do. ...	Do.
Uru	Echeneis naucrates ..	Sucker-fish ...	Scombridae.
Välai	Chirocentrus dorab ...	Dorab	Chirocentridae.
Val-netheli ...	Coilia spp	Anchovy and Whitebait.	Clupeidae.
Valvadi thirukkai ..	Rhinoptera javanica ...	Oyster-eating ray	Myliobatidae.
Varikaral	Equula lineolata		Gerridae.
Vaval thirukkai ...	Aetiobatis narinari ..	Bat Ray	Myliobatidae.
Vaval	Stromateus spp.	Pomfret	Stromateidae.
Velamin	Lethrinus nebulosus ...	Sea-bream ...	Sparidae.
Vengadai	Caranx rottleri	Horse-mackerel ...	Carangidae.
Venganai	Pellona $\frac{\text{indica}}{\text{brachysoma}}$ ...	...	Clupeidae.
Vela ..	Pristis cuspidatus ...	Saw-fish	Pristidae.
Vennetheli ...	Engraulis commersonianus and E. indicus.	Anchovies ...	Clupeidae.
Vilangu	Muraena, Muraenesox, Uroconger and Anguilla.	Muraenas and Eels.	Muraenidae.

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15.

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
1	Adal ...	1911 ...	...	...		1912	..	..	...	...	..	...	.	...	4	4
	Cynoglossus spp. ...	1912 ...	2	13	..	1913	...	...		11	...	...	3	..	..	29
	Sole	1913 ...	2	...	...	1914	..	36	...	...	...	...	...	...	...	38
		1914 ...	..	51	47	1915	22	76	144	...	...	24	50	10	23	447
		Average ...	1	16	12		5	28	36	3	...	6	13	2	7	129
2	Ailai ...	1911 ...	70	170	...	1912		..	...	..		...	...	.	90	330
	Scomber microlepidotus.	1912 ...	.	...	5	1913	...	.	...	50	129	122	29	13	280	628
		1913 ...	...	3	83	1914	...	74	65	..	..	...	...	242	..	467
	Mackerel	1914 ...	...	134	85	1915	40	14	59	224	120	58	185	86	93	1,098
		Average ...	18	77	43		10	22	31	69	62	45	53	85	116	631
3	Ailis	1911 ...		116	80	1912	...	...	..		...	..	...	...	...	196
	Coryphaena hippurus.	1912 ...	...	...	24	1913	7	...	...	247	227	28	205	..	39	777
		1913 ...	286	68	893	1914	333	29	60	31	...	...	...	...	46	1,752
	Dolphin	1914 ...	...	31	70	1915	..	...	...	...	..	..	..	...	...	101
		Average	71	54	267		85	7	16	70	57	7	51	..	21	706
4	Athumin and Manalai.	1911 .	...	..	..	1912	..	...	...	...	...	..	...	...	..	...
	Mugil borneensis	1912 ...	...	...	...	1913	...	...	...	29	...	...	188	13	...	230
	and M. speigleri.	1913	...	263	60	1914	.	...		...		...	1,253	561		2,137
	Grey Mullet ...	1914 ...	507	979	588	1915	416	240	103	856	926	1,039	1,281	751	1,089	8,775
		Average ...	127	310	162		104	60	26	221	231	260	681	331	272	2,785

5	Bhandari	1911 ...	113	25	...	1912	...	..	..	99	12	7	...	15	221	492
	Serranus gilberti ...	1912 ...	...	...		1913	..	36	...	54	86	12	..	303	232	723
	Sea-perch	1913 ...	65	.	..	1914	105	70	12	5	...	...	...	392	2,904	3,553
		1914 ...	578	15	40	1915	..			...	11	...	...	26	44	714
		Average ..	189	10	10		26	29	3	39	27	5		182	850	1,370
6	Chalai	1911 ...	942	...	..	1912	2,268	466	60	16	...	...	...	...	20	3,772
	Clupea sindensis and C. atricauda.	1912 ...	...	1,624	15	1913	...	...		5	...	...	31	580	8,590	10,845
		1913 ...	7,247	4,021	900	1914	962	882	914	376	..	.	..	757	6,195	22,254
	Sardine	1914 ...	4,652	1,007	424	1915	998	349	272	7	..	...	13	48	1,305	9,075
		Average ...	3,210	1,663	335		1,057	424	312	101	...	...	11	346	4,027	11,486
7	Cheppili	1911 ...	1,144	447	...	1912	295	28	120	..	16	117	189	1,146	2,172	5,674
	Lutjanus annularis...	1912	524	...	...	1913	329	684	1,416	1,079	667	67	345	3,416	3,103	11,630
	Sea-perch	1913 ...	667	56	...	1914	558	648	1,214	985	294	124	458	3,052	5,620	13,676
		1914 ...	2,205	802	412	1915	854	1,362	3,247	1,855	275	843	2,108	990	2,518	17,471
		Average ..	1,135	326	103		509	680	1,499	980	313	288	775	2,151	3,353	12,112
8	Cheri	1911 ...		...	...	1912	...	15	...	5	...	7	...	...	..	27
	Sciaena miles and Pristipoma hasta.	1912 ..	232	15	5	1913	3	5	...	...	...	23	30	10	17	340
		1913 ...	..	83	104	1914	11	10	174	36	...	...	22	20	..	460
	Jew-fish	1914 ..	50	97	158	1915	200	180	155	77	77	51	166	131	80	1,422
		Average ...	71	49	67		54	53	82	29	19	20	54	40	24	562
9	Kadavula	1911 ...	176	201	125	1912	10	...	43	70	169	107	20	50	...	971
	Elacate nigra ...	1912 .	12	12	103	1913	90	..	...	33	33	30	80	86	221	709
	Butter-fish	1913	123	26	...	1914	155	91	180	52	13	...		144	173	957
		1914 ...	31	169	146	1915	327	120	102	51	136	58	157	...	111	1,408
		Average ...	86	102	93		146	52	81	51	88	49	67	70	126	1,011

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Total.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
10	Kadumuttan ...	1911 ...	61		...	1912	.		...	...		...			...	61
	Scolopsis vosmeri ...	1912 ...		...	...	1913	..	...	...	42	319	...	...	...	...	361
	Sea-bream	1913 ..	32	...	...	1914	45		..	...	...	...	..	..	...	77
		1914 ..	..	...	...	1915	...	353	1,323	272	55	...	...	...	...	2,003
		Average ...	23	..	...		11	88	331	79	94	...	...	...	..	626
11	Kalai	1911 ...	362	...	...	1912		188	...	...	...	13	16	1	10	590
	Polynemus sextarius	1912 ...	...	..		1913	416	2	...	...	15	24	7	50	14	528
	Indian Salmon and	1913 ...	172	58	136	1914	28	410	85	162	...	50	4	...	...	1,105
	Bamin	1914 ...	65	206	267	1915	195	143	126	97	14	56	84	23	168	1,439
		Average ...	149	66	101		159	186	52	65	7	36	28	18	48	915
12	Kalawa	1911 ...	5,042	2,452	60	1912	877	602	1,520	582	621	253	970	3,501	5,103	21,583
	Serranus undulosus.	1912 ...	1,956	120	40	1913	2,096	3,377	4,408	2,220	1,677	256	952	5,799	10,815	33,716
	Indian Rock-cod ...	1913 ...	5,369	1,921	...	1914	4,008	7,922	4,275	2,547	2,668	192	679	7,334	11,405	48,320
		1914 ...	9,511	3,377	3,900	1915	4,014	2,606	1,505	6,034	2,416	839	1,998	1,144	3,658	41,002
		Average ...	5,469	1,968	1,000		2,749	3,627	2,927	2,846	1,845	385	1,150	4,444	7,745	36,155
13	Karal	1911 ...	5,601	537	180	1912	118	1,321	6,216	2,567	1,713	...		...	1,030	19,283
	Equula spp. ..	1912 ...	1,346	3,654	1,349	1913	349	115	20	293	38	...	95	737	3,778	11,774
	Gazza spp.	1913 ...	1,033	626	1,078	1914	811	473	1,222	178	88	20	43	590	465	6,627
		1915 ...	442	956	999	1915	570	469	709	212	32	63	137	194	277	5,060
		Average ...	2,106	1,443	902		462	594	2,042	812	468	21	69	380	1,387	10,686

14	Karumuthal ..	1911 ...	...	..	..	1912	...	..	...	...	...		...	...	...	...
	Chrysophrys berda	1912 ..	...	...	...	1913	...	10	...	..	...	...	18	...	...	28
	Silver bream ...	1913 ...	.	14	...	1914	...	...	...	...	...	..	53	8	..	75
		1914 ..	95	131	87	1915	68	165	47	66	29	43	42	17	27	817
		Average ...	24	36	22		17	44	12	16	7	11	28	6	7	230
15	Kathalai	1911 ...	1,632	5,081	12,754	1912	36,304	23,658	10,142	570	...	1,548	2,738	...	1	94,428
	Sciæna maculata ...	1912 ...	3,945	16,171	14,700	1913	21,960	7,375	1,580	535	15	1,465	1,495	770	10	70,021
	Jew-fish	1913 ...	1,129	2,931	6,066	1914	7,665	6,650	4,751	1,208	.	4,840	1,607	44	60	36,951
		1914 ...	899	5,611	4,364	1915	6,870	4,988	5,557	710	56	268	591	50	74	30,038
		Average ..	1,901	7,448	9,471		18,200	10,668	5,507	756	18	2,030	1,608	216	36	57,859
16	Katta ..	1911 ...	94	944	603	1912	...	1,175	552	472	609	150	108	42	9	4,758
	Chorinemus lysan	1912 ...	...	1,082	1,362	1913	1,315	184	104	1,166	3,052	1,141	1,055	72	...	10,533
	and C. tala ...	1913 ...	496	2,400	2,203	1914	707	58	292	138	563	1,511	265	84	...	8,717
		1914 .	738	2,239	2,042	1915	1,397	1,067	606	162	702	198	321	62	106	9,640
		Average ...	332	1,666	1,552		855	621	389	485	1,231	750	437	65	29	8,412
17	Kelakkan	1911 ...	531	636	1,195	1912	2,280	1,752	1,901	...	...	507	539		..	9,341
	Sillago sihama ..	1912 ...	1,830	5,533	1,850	1913	3,226	1,165	301	24	...	545	182	320	15	14,991
	Indian whiting ...	1913 ...	396	672	1,750	1914	1,369	957	839	230	..	524	445	38	50	7,279
		1914 ...	312	1,131	962	1915	856	367	406	200	62	74	88	14	81	4,553
		Average ...	767	1,993	1,442		1,933	1,060	862	113	16	412	314	93	36	9,041
18	Kelavalai	1911 ...	...	4,339	780	1912	20	...	...		...	...	...	...	..	5,139
	Thunnus thynnus ...	1912 ...	...	28	...	1913	...	...	...	..	...		...	...	..	28
	Tunny	1913 ...	..	701	493	1914	...	...	...	...	..		...		...	1,194
		1914 ...	70	465	244	1915	...	...	...	...	...	...		...	...	779
		Average ...	18	1,383	379		5	...	...	...	...	.	...	...	...	1,785

MARINE BIOLOGICAL LABORATORY WOODS HOLE LIBRARY MASS.

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
19	Keluthu	1911 ...	298	285	3,106	1912	...	232	318	84	376	415	140	308	...	5,562
	Arius spp.	1912 ...	34	1,258	2,674	1913	...	1,141	286	486	739	843	1,353	84	201	9,099
	Cat-fish	1913 ...	183	421	628	1914	1,035	468	570	73	719	508	358	179	...	5,142
		1914 ...	165	522	456	1915	780	675	458	194	607	145	489	128	186	4,805
		Average ...	170	621	1,716		454	629	408	209	610	478	585	175	97	6,152
20	Kilathi	1911 ...	127	315	590	1912	...	176	2,290	34	31	16	...	25	30	3,634
	Balistes spp. ...	1912 ...	...	...	...	1913		...	1,380	146	168	..	...	..	6	1,700
	Trigger-fish ...	1913 ...	129	217	...	1914	151	79	163	182	100	...	..	...	13	1,034
		1914 ...	28	61	66	1915	24	646	617	524	116	9	13	28	19	2,151
		Average ...	71	148	164		44	225	1,113	222	104	6	3	13	17	2,130
21	Kili	1911 ...	569	1,128	2,729	1912	7,387	4,631	4,652	165	112	625	1,076		140	23,214
	Therapon puta ...	1912 ...	3,574	11,830	3,380	1913	4,219	1,920	500	164	174	1,967	405	281	147	28,561
	Sea-perch	1913 .	486	1,400	3,178	1914	2,529	1,717	1,346	398	60	3,583	1,932	71	8	16,708
		1914 ...	731	2,789	1,327	1915	1,448	1,526	851	252	107	132	130	38	144	9,475
		Average ...	1,340	4,287	2,653		3,896	2,448	1,837	245	113	1,577	886	97	110	19,489
22	Kola	1911 ...	...	...	...	1912	15,287	1,997	30	...	...	...	...	...		17,314
	Engraulis dussumieri	1912 ..	1,253	..	505	1913	932	.	.	...	...	...	...	129	700	3,519
	Anchovy	1913 ...	1,667	1,623	656	1914	3,923	2,447	1,150	578	..	..	...	110	1,814	13,968
		1914 ...	1,379	511	611	1915	2,949	796	18	..	...	...	2	89	330	6,685
		Average ...	1,075	533	443		5,773	1,310	299	145	..	...	...	82	711	10,371

23	Kooral	1911 ...	...	...	...	1912	300	200	389	...	...	...	...	...	...	889
	Sciaena sp.	1912 ...	8	60	...	1913	...	260	40	146	137	...	...	60	...	711
	Jew-fish	1913 ...	...	21	291	1914	12	90	64	...	...	...	20	45	..	543
		1914 ...	55	225	91	1915	...	...	...	...	...	...	...	...	...	371
		Average ...	16	76	96		78	138	123	36	24		5	26	...	628
24	Kurumin	1911 ...	302	...	...	1912	30	151	...	...	...	...	...	...	...	483
	Pristipoma macula-tum	1912 ...	...	...	...	1913	380	40	...	150	...	60	100	6	1,380	2,116
	Grunter	1913 ...	1,199	651	2,049	1914	1,136	915	499	109	...	190	239	55	360	7,402
		1914 ...	287	1,333	803	1915	667	234	342	118	7	49	135	56	71	4,102
		Average ...	447	496	713		553	335	210	94	2	75	119	29	453	3,526
25	Kuruvalai	1911 ...	723	195	...	1912	...	12	60	319	787	809	698	590	2,304	6,497
	Lutjanus rivulatus ..	1912 ...	752	16	...	1913	102	144	885	1,291	1,052	525	653	2,107	2,123	9,650
	Sea-perch.	1913 ...	904	289	...	1914	349	636	848	501	364	174	203	2,581	2,552	9,401
		1914 ..	1,737	129	89	1915	8	125	325	619	472	1,096	1,577	958	749	7,884
		Average ...	1,029	157	22		115	229	530	682	669	651	783	1,559	1,932	8,358
26	Kuthippu	1911 ..	3,745	...	70	1912	480	129	400	36	...	7	...	...	4,177	9,044
	Lactarius delicatu-lus	1912 ...	4,496	1,715	75	1913	100	158	970	594	523	550	617	154	1,042	10,994
		1913 ...	947	354	115	1914	23	138	160	..	4	150	3	323	80	2,297
		1914 ..	115	430	128	1915	181	118	59	97	142	102	242	167	186	1,967
		Average ...	2,326	625	97		196	136	397	182	167	202	216	161	1,371	6,076
27	Lomian	1911 ...	90	...	...	1912	...	...	...	...	...	...	..	...	1,410	1,500
	Upeneoides sp. ...	1912 ..	...	...	...	1913	...	...	...	...	...	...	..	..	14,981	14,981
	Red Mullet... ...	1913 ...	...	...	...	1914	...		490	...	...	...	...	5,873	791	7,154
		1914 ...	...	...	...	1915	...	...	...	...	.	..	...	..	...	...
		Average ...	23	...	...		...	...	123	...	...	...	...	1,468	4,295	5,909

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
28	Mattia-mickael ..	1911 ...	...	...	...	1912	...	...	...	...	...	...	...	..	...	...
	Rhynchobatus ancy-	1912 ...	...	...	...	1913	...	...	...	...	278	...	315	70	70	733
	lostomus ...	1913 ...	174	...	...	1914	...	...	...	...	..	...	...	...	...	302
		1914 ...	...	...	...	1915	..	128	...	...	153	128	110	116	...	507
		Average ...	44	...	...		...	32	...	...	108	32	106	47	17	386
29	Moonjan ...	1911 ...	50	74	80	1912	60	...	...	...	10	10	...	15	114	413
	Serranus hexagona-	1912	40	...	...	1913	211	180	88	56	44	...	...	226	1,217	2,062
	tus	1913 ...	209	104	...	1914	134	218	683	77	4	...	...	594	732	2,755
	Sea-perch	1914 ...	230	256	515	1915	831	184	186	190	78	16	250	228	179	3,143
		Average ...	132	109	149		309	145	239	81	34	6	63	266	560	2,093
30	Muthal	1911 ...	...	...	...	1912	...		..	...	...	...	...	...	...	...
	Belone strongylura	1912 ...	...	...	...	1913	...	...	...	...	...	...	...	...	...	...
	and Hemirhamphus	1913 ...	...	...	...	1914	...	...	...	...	...	...	6	...	...	6
	spp.	1914 ...	...	...	...	1915	...	11	242	...	48	89	70	22	30	512
	Gar-fish															
		Average ...	...	...	...		...	3	61	...	12	22	19	5	7	129
31	Nagarai	1911 ...	2,532	260	100	1912	52	1,104	3,651	345	...	...	25	..	1,288	9,357
	Upeneoides spp. ...	1912 ...	358	509	447	1913	160	15	185	690	22	...	...	3,291	8,430	14,107
	Red Mullet... ...	1913 ...	2,638	677	281	1914	78	182	912	1,382	...	8	23	2,590	1,042	9,813
		1914 ...	297	616	389	1915	325	270	128	157	25	37	60	127	227	2,658
		Average ...	1,456	516	304		154	392	1,219	644	12	11	27	1,502	2,747	8,984

32	Netheli	1911 ...	...	235	...	1912	...	...	...	3	...	...	...	...	...	238
	Engraulis purava ...	1912 ...	...	...	139	1913	30	...	...	...	10	...	5	122	86	392
	Whitebait	1913 ...	197	173	162	1914	...	.	...	.	...	..	1,392	913	148	2,985
		1914 ..	206	279	466	1915	454	397	263	94	39	70	38	23	1,040	3,369
		Average ...	101	172	192		121	99	66	24	12	17	359	264	319	1,746
33	Painthe	1911 ...	...	...	...	1912	..	...	...	...	46	24	...	...	...	70
	Drepane punctata ...	1912 .	...	...	...	1913	...	...	...	1,129	180	...	...	..	...	1,309
	Spotted Dory ...	1913 ...	...	...	...	1914	...	...	...	...	264	. .	...	...	...	264
		1914 ...	...	30	7	1915	5	...	68	...	2,122	30	...	...	2	2,264
		Average ...	...	8	2		1	..	17	282	653	14	...	...	...	977
34	Pamuttan	1911 ...	220	529	630	1912	..	60	1,880	1,039	777	...	...	...	60	5,195
	Scolopsis bimacula-	1912 ..	204	178	...	1913	...	...	1,000	230	404	...	...	...	16	2,032
	tus	1913 ..	638	1,155	...	1914	377	...	...	520	711	330	6	16	61	3,814
	Sea-bream	1914 ...	658	241	...	1915	76	353	1,279	963	106		...	...	...	3,676
		Average ...	430	526	158		113	103	1,040	688	500	82	1	4	34	3,679
35	Panna	1911 ..	269	411	142	1912	148	40	193	10	44	8	..	..	285	1,550
	Otolithus ruber ...	1912 ...	710	680	423	1913	187	260	335	628	255	225	117	87	144	4,051
		1913 ...	1,053	857	2,405	1914	959	919	341	32	31	...	196	116	30	6,939
		1914 ...	561	1,549	909	1915	1,063	833	707	170	180	153	109	84	135	6,453
		Average ...	648	874	970		589	513	394	210	127	96	106	72	149	4,748
36	Parai	1911 ..	639	751	...	1912	...	364	332	272	272	67	11	4	310	3,022
	Caranx spp. ...	1912 ..	104	571	1,161	1913	1,118	642	174	1,275	1,000	554	899	459	698	8,655
	Horse-mackerel ...	1913 ...	2,323	1,776	2,214	1914	2,126	921	1,003	65	248	449	211	439	313	12,088
		1914 ..	531	1,942	1,637	1915	1,111	900	805	425	814	253	384	219	557	9,578
		Average ...	899	1,260	1,253		1,089	707	579	509	584	331	376	280	469	8,336

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
37	Poovali	1911 ...	54	24	7	1912	102	1,223	342	57	247	1	...	...	1	2,058
	Pellona elongata and	1912 ...	2	...	245	1913	509	284	159	2,225	367	564	271	28	28	4,682
	P. filigera ...	1913 ...	48	55	126	1914	534	275	860	318	131	...	24	7	46	2,424
	Indian Herring ...	1914 ..	147	63	186	1915	813	304	258	218	335	78	58	21	38	2,519
		Average ..	63	35	141		490	522	405	704	270	161	88	14	28	2,921
38	Sadayan	1911 ..	...	...	18	1912	...	..	..	...	...	10	4	15	8	55
	Lobotes surinamen-	1912 ..	30	10	17	1913	4	50	...	...	6	22	13	6	...	158
	sis	1913 ..	...	12	9	1914	...	...	...	...	...	...	...	...	...	21
		1914 ..	...	41	...	1915	480	352	208	45	...	2	...	19	12	1,159
		Average ...	7	16	11		121	101	52	11	1	9	4	10	5	348
39	Savalai	1911 ..	150	32	.	1912	...	..	..	.	...	..	...	...	5,192	5,374
	Trichiurus savala ..	1912 ..	1,831	5,700	...	1913	..	5	...	...	...	..	...	5	...	7,541
	Ribbon-fish ...	1913 ..	133	32	246	1914	29	...	...	...	..	...	..	...	...	440
		1914 ..	56	39	41	1915	258	4	34	...	...	9	9	11	12	473
		Average ..	542	1,451	72		72	2	9	...	...	2	2	4	1,301	3,457
40	Seela	1911 ..	2,392	9,511	2,964	1912	3,000	1,566	427	541	773	576	609	1,582	789	24,739
	Cybium commers-	1912 ...	72	1,963	1,408	1913	2,809	2,352	2,856	2,449	2,191	1,997	1,559	196	669	20,521
	onii	1913 ...	821	4,365	5,775	1914	3,735	1,371	1,832	1,967	1,449	6,176	1,325	483	99	29,398
	Seer	1914 ..	824	3,797	2,146	1915	2,657	1,526	1,946	385	1,484	786	4,577	1,208	205	21,541
		Average ...	1,027	4,909	3,073		3,053	1,704	1,765	1,336	1,474	2,384	2,018	867	440	24,050

41	Sudai	1911 ...	2,328	...	...	1912	572	536	10	1,183	50	...	90	255	71	5,095
	Clupea fimbriata ...	1912 ...	2,370	3,668	662	1913	1,033	...	...	..	...	...	406	2,735	3,518	14,392
	Sardine	1913 ..	4,940	5,848	727	1914	851	917	577	243	...	...	63	1,809	6,220	22,195
		1914 ...	3,544	934	478	1915	469	406	508	186	...	...	11	221	4,174	10,931
		Average ..	3,296	2,612	467		731	465	274	403	12	...	142	1,255	3,496	13,153
42	Sura	1911 ..	713	200	26	1912	856	261	448	575	530	886	797	8,543	392	14,227
	Selachoidei ...	1912 .	209	709	246	1913	1,137	1,043	458	2,828	2,081	1,295	1,998	409	1,566	13,979
	Sharks	1913 .	7,785	467	575	1914	1,879	2,633	3,034	732	1,191	1,361	1,430	1,276	526	22,889
		1914 ..	1,089	1,505	1,889	1915	1,964	967	538	717	1,810	1,060	2,022	5,021	1,172	19,754
		Average ...	2,449	720	684		1,459	1,226	1,119	1,213	1,403	1,151	1,562	3,812	914	17,712
43	Surai	1911 ...	174	3,404	1,571	1912	233	...	...	8	...	.	...	.	...	5,390
	Thunnus pelamys ...	1912 ...	...	268	938	1913	1,036	43	...	...	...	...	...	...	...	2,285
	Bonito	1913 .	277	4,819	2,921	1914	941	19	43	...	...	...	...	...	...	9,020
		1914 .	395	1,412	944	1915	763	186	46	...	...	6	15	...	..	3,767
		Average ...	212	2,476	1,593		743	62	22	2	...	1	4	...	...	5,115
44	Thalapathu ...	1911 ...	...	...	...	1912	...	...	...	...	...	...	...	...	...	...
	Xiphias gladius ...	1912 ..	...	...	...	1913	...	..	...	...	...	...	...	...	...	...
	Sword-fish	1913 ..	...	310	265	1914	407	...	69	...	...	...	...	...	...	1,051
		1914 ..	...	249	49	1915	415	110	...	...	58	...	...	188	...	1,069
		Average ...	...	140	78		206	28	17	...	14	...	...	47	...	530
45	Thambuvan ...	1911 ..	903	184	...	1912	640	649	1,421	40	66	...	...	132	1,914	5,949
	Serranus polleni ...	1912 ..	506	..	32	1913	1,026	2,081	4,270	1,661	1,015	129	60	371	1,907	13,058
	Sea-perch	1913 ...	516	335	...	1914	2,356	3,290	2,127	2,288	1,152	80	50	873	1,039	14,106
		1914 ..	1,336	833	2,245	1915	1,696	1,444	1,126	1,235	241	18	365	282	650	11,471
		Average ...	815	338	569		1,430	1,866	2,236	1,306	618	56	119	415	1,378	11,146

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
46	Theenan	1911 ..	109	...	...	1912	...	...	...	...	...	...	...	...	36	145
	Lethrinus rostratus	1912 ...	...	...	...	1913	...	...	...	...	...	..	...	...	...	...
	Pigfaced bream ...	1913 ...	...	...	...	1914	...	...	...	. .	...	...	..	..	...	...
		1914 ..	...	80	...	1915	..	...	...	...	...	...	...	...	...	80
		Average ...	27	20	..		...	...	...		...	...	...	...	9	56
47	Thirukkai	1911 ..	452	103	...	1912	35	...	...	1,788	437	352	22	135	120	3,444
	Trygonidæ and Myliobatidæ ...	1912 ...	79	57	89	1913	247	183	...	1,343	1,274	445	333	154	274	4,478
	Stingrays and Eagle-rays	1913 ...	872	281	205	1914	113	349	559	..	282	420	106	300	352	3,839
		1914 ...	598	704	239	1915	270	438	241	396	1,235	616	655	406	652	6,450
		Average ..	500	286	135		166	243	200	882	807	458	279	249	349	4,552
48	Tholan	1911 ..	8	...	...	1912		..	108	73	651	174	...	...	...	1,014
	Diagramma punctatum	1912 ...	...	...	...	1913	...	..	...	179	606	275	84	...	20	1,164
		1913 ...	25	...		1914	52	108	..	...	2,813	728	22	34	28	3,810
		1914 ...	...	85	78	1915	127	382	18	264	431	1,173	245	84	67	2,954
		Average ...	8	21	19		45	123	32	129	1,125	588	87	29	29	2,235
49	Thondai	1911 ...	9,314	10,504	3,108	1912	11,820	2,301	8,416	7,936	...	...	...	...	162	53,561
	Dussumieria acuta ...	1912 ...	..	4,706	3,900	1913	3,265	16,297	12,035	9,258	650	...	40	4,323	1,231	55,705
	Sardine	1913 ...	2,903	1,908	4,973	1914	2,114	1,111	6,650	5,014	54	...	...	2,494	620	27,841
		1914 ...	859	6,857	2,793	1915	2,230	259	467	2,078	125	10	16	607	888	17,189
		Average ...	3,269	5,994	3,694		4,857	4,992	6,892	6,072	207	2	14	1,856	725	38,574

50	Udagam	1911 ...	3	...	...	1912	...	...	...	...	...	...	...	...	...	3
	Sphaerodon grand-	1912 ...	...	...	...	1913	...	..	...	...	...	...	...	...	...	...
	oculis and Gerres	1913 ...	...	...	...	1914	...	...	...	...	...	...	...	...	...	...
	filamentosus ...	1914 ...	...	64	44	1915	67	58	53	8	13	71	170	57	118	723
		Average ...	1	16	11		17	14	13	2	3	18	43	14	30	182
51	Ullam	1911 ...	...	...	...	1912	...	102	...	136	243	140	161	231	4	1,017
	Clupea ilisha ...	1912 ...	...	...	71	1913	10	25	...	217	1,679	1,084	971	44	42	4,143
	Hilsa	1913 ..	17	58	30	1914	333	193	252	64	7	2,106	128	111	31	3,330
		1914 ..	...	37	18	1915	169	78	35	32	380	209	484	...	89	1,531
		Average ...	4	24	30		128	99	72	112	577	885	436	97	41	2,505
52	Ulli	1911 ...	58	745	...	1912	...	179	653	...	179	6	20	36	536	2,412
	Sphyraena obtusata.	1912 ..	390	...	23	1913	123	...	180	450	189	306	646	57	95	2,459
	Barracuda	1913 ..	565	563	254	1914	357	194	577	55	...	300	385	59	6,	3,370
		1914 ...	103	645	1,070	1915	859	566	203	144	389	172	557	43	98	4,849
		Average ...	279	488	337		335	235	403	162	189	196	402	49	197	3,272
53	Uluvai	1911 ..	...	15	10	1912	...	...	...	...	..	22	155	12	58	272
	Rhyncobatus djed-	1912	49	196	20	1913	24	...	...	62	28	48	31	75	35	568
	densis and Rhino-	1913 ...	185	27	...	1914	...	...	64	30	...	..	14	17	2	339
	batus spp. ...	1914 ...	70	117	62	1915	108	51	22	26	51	227	82	27	60	903
	Plough-fish ...															
		Average ...	76	89	23		33	13	21	29	20	74	70	33	39	520
54	Vālai	1911 ...	5,667	7,909	4,680	1912	25,215	17,366	4,490	8,240	1,29,598	29,462	18,784	12,522	4,770	268,703
	Chirocentrus dorab.	1912 ...	155	3,076	12,401	1913	21,042	13,851	13,200	36,463	35,418	26,214	19,066	2,133	2,064	185,083
	Dorab	1913 ...	1,991	1,433	2,812	1914	17,716	6.538	8,145	11,451	22,435	176,169	20,214	5,652	513	275,069
		1914 ...	594	2,616	3,507	1915	18,162	18,145	4,743	1,551	20,568	12,123	33,857	7,413	1,964	125,243
		Average ...	2,102	3,759	5,850		20,533	13,975	7,645	14,426	52,005	60,992	22,980	6,930	2,328	213,525

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish landed at Tuticorin during the four years 1911—15—*cont.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
55	Val-netheli ...	1911 ...	...	...	...	1912	...	..	...	...	...	...	...	...	...	...
	Coilia spp. ...	1912 ...	...	...	...	1913	...	...	...	...	...	...	...	...	...	...
	Whitebait	1913 ...	95	148	...	1914	...	...	...	...	...	...	...	5	...	248
		1914 ...	615	1,174	1,278	1915	1,808	2,421	1,340	44	21	8	10	77	432	9,228
		Average ...	178	330	320		452	605	335	11	5	2	2	21	108	2,369
56	Vaval	1911 ...	608	1,864	114	1912	252	534	27	321	39	66	41	...	16	3,882
	Stromateus spp. ..	1912 ...	158	163	99	1913	147	139	129	361	115	237	432	18	85	2,083
	Pomfret	1913 ...	28	...	41	1914	212	258	377	114	192	253	117	1	33	1,626
		1914 ...	9	430	414	1915	419	257	172	86	102	62	466	31	58	2,506
		Average ...	201	614	167		258	297	176	220	112	155	264	12	48	2,524
57	Vela	1911 ...	...	...	...	1912	...	...	...	...	...	...	...	...	11	11
	Pristis cuspidatus ...	1912 ...	...	24	...	1913	...	...	...	...	2	...	4	...	..	30
	Saw-fish	1913 ...	5	63	...	1914	130	...	...	...	...	...	...	...	...	198
		1914 ...	...	79	113	1915	190	48	...	...	15	...	25	...	51	521
		Average ...	1	42	28		80	12	...	...	4	...	7	...	16	190
58	Velamin	1911 ...	2,248	341	20	1912	229	473	466	404	907	647	3,627	4,182	3,173	16,717
	Lethrinus nebulosus.	1912 ...	1,269	...	...	1913	886	1,402	2,575	1,975	1,381	594	732	2,804	2,300	15,918
	Sea-bream	1913 ...	953	928	...	1914	727	866	991	1,728	2,260	1,271	836	5,040	4,352	19,952
		1914 ...	1,862	591	749	1915	438	432	3,096	2,763	1,507	2,476	3,513	1,787	4,338	23,552
		Average ...	1,583	465	192		570	793	1,782	1,718	1,514	1,247	2,177	3,453	3,541	19,035

59	Vengadai ... ... Caranx rottleri ... Horse-mackerel ...	1911 ...	70	16	...	1912	...	...	...	...	...	...	...	...	...	86
		1912 ...	...	...	...	1913	...	...	...	10	...	95	...	...	14	119
		1913 ...	118	335	261	1914	45	42	19	110	80	230	105	33	...	1,378
		1914 ...	...	313	148	1915	190	203	141	113	108	97	210	177	47	1,747
		Average ...	47	166	102		59	61	40	58	47	106	79	53	15	833
60	Venganai ... ... Pellona indica / brachysoma. Sardine	1911 ...	232	140	...	1912	1,182	1,094	...	...	...	...	...	...	1,237	3,885
		1912 ...	2,420	666	282	1913	503	...	...	...	...	398	583	28	425	5,305
		1913 ...	1,193	521	294	1914	1,124	824	273	164	38	40	...	41	452	4,964
		1914 ...	1,735	1,327	714	1915	491	341	255	70	32	2	...	6	478	5,451
		Average ...	1,395	663	323		825	565	132	58	17	110	146	19	648	4,901
61	Miscellaneous ...	1911 ...	69	24	..	1912	...	...	...	84	2	19	...	..	4	202
		1912 ...	..	...	...	1913	2	100	..	9	71	1	...	...	32	215
		1913 ...	101	530	75	1914	109	136	60	...	827	248	...		...	2,086
		1914 ...	16	19	208	1915	1,363	359	103	111	144	314	236	146	288	3,307
		Average ...	46	143	71		369	149	41	51	261	145	59	36	81	1,452
62	Amai ... ... Turtle	1911 ...	150		...	1912	...	..	...	400	...	...	...	...	235	785
		1912 ...	150	215	...	1913	...	74	150	136	245	241	132	240	90	1,673
		1913 ...	251	...	...	1914	...	...	345	120	70	...	...	...	1,124	1,910
		1914 ...	225	132	100	1915	68	...	460	...	120	245	226	576	62	2,214
		Average ...	194	87	25		17	18	239	164	109	122	89	204	378	1,646
63	Iral ... ... Penaeus carinatus. P. indicus and P. affinis. Prawns	1911 ...	...	...	...	1912	...		...	4	..	...		...	96	100
		1912 ...	...	...	...	1913	...	...	...	..	..	...	6	15	77	98
		1913 ...	60	128	..	1914	...	...	47	18	...	...	213	383	5	854
		1914 ...	181	1,424	1,021	1915	1,528	1,148	1,240	681	487	461	357	343	663	9,534
		Average ...	60	388	255		382	287	322	176	121	115	144	185	211	2,646

TABLE II.—Detailed tabulation of the monthly catches of 61 kinds of fish, etc., landed at Tuticorin during the four years 1911—15—*concld.*

Number.	Name.	Year.	October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
			LB.	LB.	LB.		LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LBS.	LB.
64	Kadal-panri ...	1911 ...	...	...	...	1912	...	...	...	...	...	...*	...	...	...	.
	Halicore dugong ...	1912 ...	280	...	...	1913	...	...	...	...	...	...	...	...	...	280
	Dugong	1913 ...	..	...	...	1914	...	...	...	..	...	...	224	...	...	224
		1914 ...	...	...	210	1915		..	...	...	...	128	...	...	393	731
		Average ...	70	...	53		...	...	...	...	...	32	56	..	98	309

* Weight not given.

TABLE III.—Detailed tabulation of weight and value of the catches of fish landed month by month at Tuticorin during the four years 1911—15 classified according to the method of capture.

Method.	Year.	—		October.	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
Vāla Valai ...	1911	Weight ...	Lb.	7,945	11,336	5,116	1912	15,809	12,911	5,070	9,357	132,283	31,894	20,547	15,056	6,001	273,325
		Value ...	Rs.	572	786	324		951	789	304	651	3,804	2,048	1,597	1,572	282	13,680
	1912	Weight ...	Lb.	757	3,197	12,288	1913	21,835	14,582	15,039	43,623	45,309	35,592	29,214	3,013	3,009	227,458
		Value ...	Rs.	36	147	906		1,726	887	969	2,626	2,962	3,659	2,834	273	243	17,268
	1913	Weight ..	Lb.	3,755	2,288	2,531	1914	16,223	6,877	11,900	13,976	27,036	189,130	24,270	7,192	769	305,947
		Value ...	Rs.	342	196	299		1,355	617	904	1,126	2,105	10,404	2,040	699	45	20,132
	1914	Weight ...	Lb.	...	3,196	3,746	1915	11,728	12,540	5,118	2,561	26,842	15,167	43,553	10,362	3,730	138,543
		Value ...	Rs.	...	346	343		839	797	351	275	2,366	1,451	4,839	1,168	372	13,147
Average ...	...	Weight ...	Lb.	3,114	5,004	5,920		16,399	11,728	9,282	17,379	57,867	67,946	29,396	8,906	3,377	236,318
		Value ...	Rs.	238	369	468		1,218	773	632	1,169	2,809	4,390	2,828	928	235	16,057
Kola Valai ...	1911	Weight ...	Lb.	3,659	...	...	1912	17,854	4,650	1,938	1,210	50	...	125	255	581	30,322
		Value ...	Rs.	282		.		640	223	66	85	1	...	12	19	22	1,350
	1912	Weight ...	Lb.	5,499	6,148	1,560	1913	3,102	318	...	...	...	...	458	2,897	11,606	31,588
		Value ...	Rs.	287	197	95		140	8	..	...	...	...	32	223	636	1,618
	1913	Weight ...	Lb.	14,748	10,606	2,317	1914	6,550	5,400	3,253	1,885	...	...	...	2,175	15,323	62,257
		Value ...	Rs.	983	674	155		403	347	204	105	...	...	..	198	759	3,828
	1914	Weight ...	Lb.	10,253	1,894	2,110	1915	7,726	3,803	...	...	...	...	...	1,134	5,578	32,498
		Value ...	Rs.	619	126	165		460	174		...	...	...	...	59	231	1,834
Average ...	...	Weight ...	Lb.	8,540	4,662	1,497		8,808	3,543	1,297	774	12	...	146	1,615	8,272	39,166
		Value ...	Rs.	543	249	104		411	188	67	47	..	...	11	125	412	2,157
Mădi Valai ...	1911	Weight ...	Lb.	10,897	13,160	7,022	1912	27,205	11,646	14,609	11,918	1,804	..	...	...	397	98,658
		Value ...	Rs.	705	746	437		1,529	651	710	592	109	...	...	...	13	5,492
	1912	Weight ...	Lb.	190	6,540	10,043	1913	6,245	19,587	13,233	11,214	3,133	155	193	568	121	71,222
		Value ...	Rs.	10	263	674		302	739	585	463	208	7	10	40	6	3,307

TABLE III.—Detailed tabulation of weight and value of the catches of fish landed month by month at Tuticorin during the four years 1911—15 classified according to the method of capture—*concld.*

Method.	Year.	—		October	November.	December.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
Mădi Valai ...	1913	Weight ...	Lb.	319	433	4,703	1914	8,725	6,311	10,755	7,509	276	...	...	...	2,056	41,087
		Value ...	Rs.	16	41	416		777	562	652	275	16	...	...		72	2,827
	1914	Weight ..	Lb.	294	2,624	3,662	1915	12,403	8,381	4,320	3,641	220	317	252	694	450	37,258
		Value ...	Rs.	20	238	344		725	556	281	256	15	18	24	30	16	2,523
Average ...	...	Weight ...	Lb.	2,925	5,689	6,358		13,644	11,481	10,729	8,571	1,358	118	111	316	756	62,056
		Value ...	Rs.	188	322	468		833	627	557	397	87	6	8	17	27	3,537
Offshore lining.	1911	Weight ...	Lb.	11,645	...	...	1912	945	975	2,107	5,857	5,180	2,317	5,725	18,031	17,172	69,954
		Value ...	Rs.	803	..	...		63	66	148	527	705	238	625	1,366	1,618	6,159
	1912	Weight ...	Lb.	13,673	...	72	1913	4,670	8,016	16,323	12,982	9,259	2,056	2,632	15,905	39,263	124,851
		Value ...	Rs.	949	...	5		343	601	1,099	904	761	268	282	1,250	2,667	9,129
	1913	Weight ...	Lb.	15,635	6,149	...	1914	9,636	14,788	11,208	8,858	10,595	3,175	2,466	27,111	30,368	139,989
		Value ...	Rs.	1,077	454	...		894	1,152	811	720	783	192	262	1,969	2,035	10,349
	1914	Weight .	Lb.	19,563	6,695	8,611	1915	8,748	8,058	13,725	15,718	9,979	7,746	11,611	10,816	13,793	135,063
		Value ...	Rs.	1,348	485	659		672	707	1,261	1,363	1,113	966	1,989	1,356	2,534	14,453
Average ...	...	Weight ...	Lb.	15,129	3,211	2,171		6,000	7,959	10,841	10,854	8,753	3,823	5,608	17,966	25,149	117,464
		Value ...	Rs.	1,044	235	166		493	632	830	878	840	416	790	1,485	2,214	10,023
Inshore lining.	1911	Weight ...	Lb.	3,446	13,064	18,158	1912	47,185	32,412	22,556	...	...	2,645	4,443	...	...	143,909
		Value ...	Rs.	247	888	1,027		3,459	1,833	1,508	...	...	165	316	...	...	9,443
	1912	Weight ...	Lb.	...	30,036	21,046	1913	30,680	10,865	2,434	701	151	4,580	3,518	1,362	...	105,373
		Value ...	Rs.	...	1,635	1,283		1,711	620	145	50	16	379	298	106	...	6,243
	1913	Weight ...	Lb.	4,156	5,641	14,273	1914	15,337	12,460	9,839	1,919	1,205	9,730	4,507	...	.	79,067
		Value ...	Rs	242	451	1,098		1,152	875	590	126	80	507	439	...	...	5,560

	1914	Weight	... Lb.	211	10,298	8,374	1915	9,885	7,765	7,231	1,316	...	386	907	...	...	46,373
		Value	... Rs.	18	346	777		740	552	496	132	.	53	85	...	...	3,699
Average ...	...	Weight	... Lb.	1,953	14,760	15,463		25,772	15,876	10,515	984	339	4,335	3,344	340	..	93,681
		Value	... Rs.	127	955	1,046		1,766	970	685	77	24	276	284	26	...	6,236
Trolling ...	1911	Weight	... Lb.	460	15,970	5,446	1912	1,063	793	511	...	...	195	..	...	...	24,438
		Value	... Rs.	106	1,311	612		119	75	48	...	..	23	...	...	...	2,294
	1912	Weight	... Lb.	...	2,498	3,451	1913	4,501	537	...	...	710	...	..	...	138	11,835
		Value	... Rs.	..	282	331		476	77	...	...	46	...	.	...	8	1,220
	1913	Weight	... Lb.	1,466	14,270	12,967	1914	4,310	216	256	...	...	...	135	..	53	33,673
		Value	... Rs.	161	1,248	1,480		552	30	31	...	.	...	14	...	3	3,519
	1914	Weight	... Lb.	2,341	8,732	5,681	1915	4,716	2,297	1,099	...	...	...	...	...	.	24,866
		Value	... Rs.	258	1,081	704		733	371	144	...	...	...	...	...	...	3,291
Average ...	...	Weight	... Lb.	1,067	10,367	6,886		3,647	961	467	...	177	49	34	...	48	23,703
		Value	... Rs.	131	981	782		70	138	56	...	11	6	3		3	2,581
Minor nets ...	1914	Weight	... Lb.	4,396	6,259	4,751	1915	6,902	5,931	4,689	2,511	2,542	2,66c	2,663	1,574	3,907	48,785
		Value	... Rs.	374	566	436		504	348	290	203	235	240	203	102	193	3,694
Fish bought at sea.	1911	Weight	... Lb.	12,972	384		1912	...	282	3,728	...	...	...	..	...	13,452	30,818
		Value	... Rs.	908	24	...		.	29	156	...	...	...	...	...	721	1,838
	1912	Weight	... Lb.	11,231	18,071	240	1913	...	1,304	2,655	3,835	...	...	247	9,123	18,690	65,396
		Value	... Rs.	516	745	14		...	91	67	88	...	...	26	591	1,256	3,394
	1913	Weight	... Lb.	13,568	6,159	8,552	1914	1,976	...	1,730	...	...	...	..	7,113	966	40,064
		Value	... Rs.	1,007	430	601		141	...	110	...	...	...	...	479	70	2,838
	1914	Weight	... Lb.	4,330	14,183	6,142	1915	2,643	1,229	1,780	32	...	...	...	...	3,060	33,399
		Value	... Rs.	352	1,100	548		140	79	116	2	...	...	...	...	168	2,505
Average ...	...	Weight	... Lb.	10,525	9,699	3,733		1,155	704	2,473	967	...	...	62	4,059	9,042	42,419
		Value	... Rs.	696	575	291		70	50	112	22	...	...	6	268	554	2,644

TABLE IV.—Summary of the annual weight and value of fish landed at Tuticorin for the four years 1911—15 classified according to the method of capture.

—	Vāla valai.		Kola valai.		Mădi valai.		Offshore lining.		Inshore lining.		Trolling.		Minor nets.		Fish bought at sea.		Totals.	
	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.	Lb.	Rupees.
October 1911 to September 1912.	273,325	13,680	30,322	1,350	98,658	5,492	69,954	6,159	143,909	9,443	24,438	2,294	...	...	30,818	1,838	671,424	40,256
October 1912 to September 1913.	227,458	17,268	31,588	1,618	71,222	3,307	124,851	9,129	105,373	6,243	11,835	1,220	...	...	65,396	3,394	637,723	42,179
October 1913 to September 1914.	305,947	20,132	62,257	3,828	41,087	2,827	139,989	10,349	79,067	5,560	33,673	3,519	...	..	40,064	2,838	702,084	49,053
October 1914 to September 1915.	138,543	13,147	32,498	1,834	37,258	2,523	135,063	14,453	46,373	3,699	24.866	3,291	48,785	3,694	33,399	2,505	496,785	45,146
Average ...	236,318	16,057	39,166	2,157	62,056	3,537	117,464	10,023	93,681	6,236	23,703	2,581	48,785	3,694	42,419	2,644	627,004	44,158

TABLE V.—Average monthly and annual quantity of the produce of the chief fishing methods employed at Tuticorin over the four years' period 1911—15.

Method.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.
1. Vāla Valai ...	3,114	5,004	5,920	16,399	11,728	9,282	17,379	57,867	67,946	29,396	8,906	3,377	236,318
2. Kola Valai ...	8,540	4,662	1,497	8,808	3,543	1,297	774	12	...	146	1,615	8,272	39,166
3. Mădi Valai (with fish bought at sea).	13,450	15,388	10,091	14,799	12,185	13,202	9,538	1,358	118	173	4,375	9,798	104,475
4. Offshore lining ...	15,129	3,211	2,171	6,000	7,959	10,841	10,854	8,753	3,823	5,608	17,966	25,149	117,464
5. Inshore lining ...	1,953	14,760	15,463	25,772	15,876	10,515	984	339	4,335	3,344	340	...	93,681
6. Trolling	1,067	10,367	6,886	3,647	961	467	...	177	49	34	...	48	23,703
7. Minor nets ...	4,396	6,259	4,751	6,902	5,931	4,689	2,511	2,542	2,660	2,663	1,574	3,907	48,785
Total ...	47,649	59,651	46,779	82,327	58,183	50,293	42,040	71,048	78,931	41,364	34,776	50,551	663,592

TABLE VI.—Average monthly and annual value of the produce of the chief fishing methods employed at Tuticorin over the four years' period 1911—15.

Method.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Totals.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1. Vāla Valai ...	238	369	468	1,218	773	632	1,169	2,809	4,390	2,828	928	235	16,057
2. Kola Valai ...	543	249	104	411	188	67	47	...	...	11	125	412	2,157
3. Mădi Valai (with fish bought at sea).	884	897	759	903	677	669	419	87	6	14	285	581	6,181
4. Offshore lining ...	1,044	235	166	493	632	830	878	840	416	790	1,485	2,214	10,023
5. Inshore lining ...	127	955	1,046	1,766	970	685	77	24	276	284	26	...	6,236
6. Trolling	131	981	782	470	138	56	...	11	6	3	...	3	2,581
7. Minor nets ...	374	566	436	504	348	290	203	235	240	203	102	193	3,694
Total ...	3,341	4,252	3,761	5,765	3,726	3,229	2,793	4,006	5,334	4,133	2,951	3,638	46,929

TABLE VII.--Diagram showing graphically the relative monthly importance of the ten principal food-fishes landed at Tuticorin over an average of four years ending September 1915.

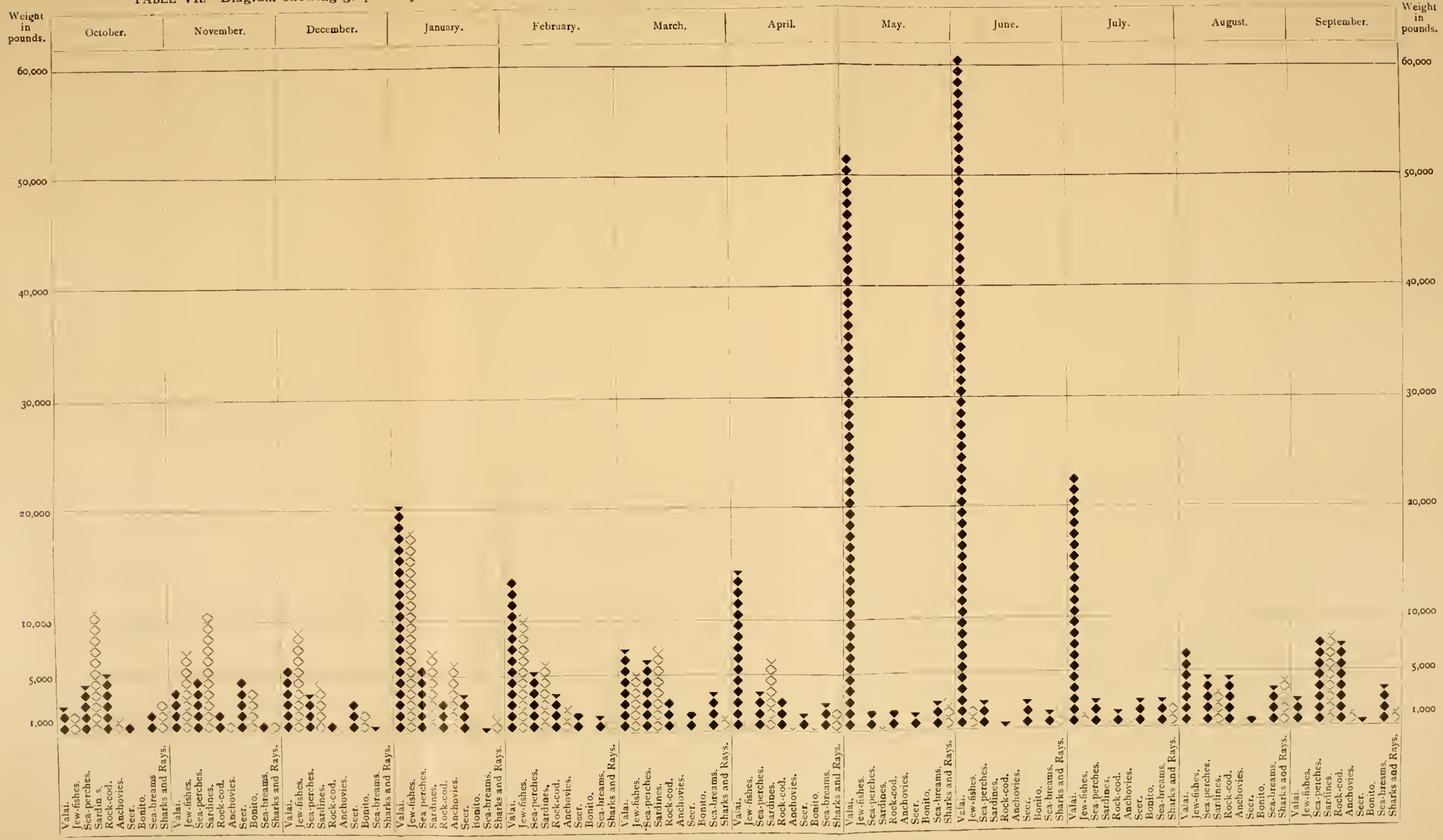


TABLE VIII.—Diagram showing graphically the comparative weight and value per annum of 36 kinds of food-fishes landed at Tuticorin, based on the averages of four years' records, 1911—15.

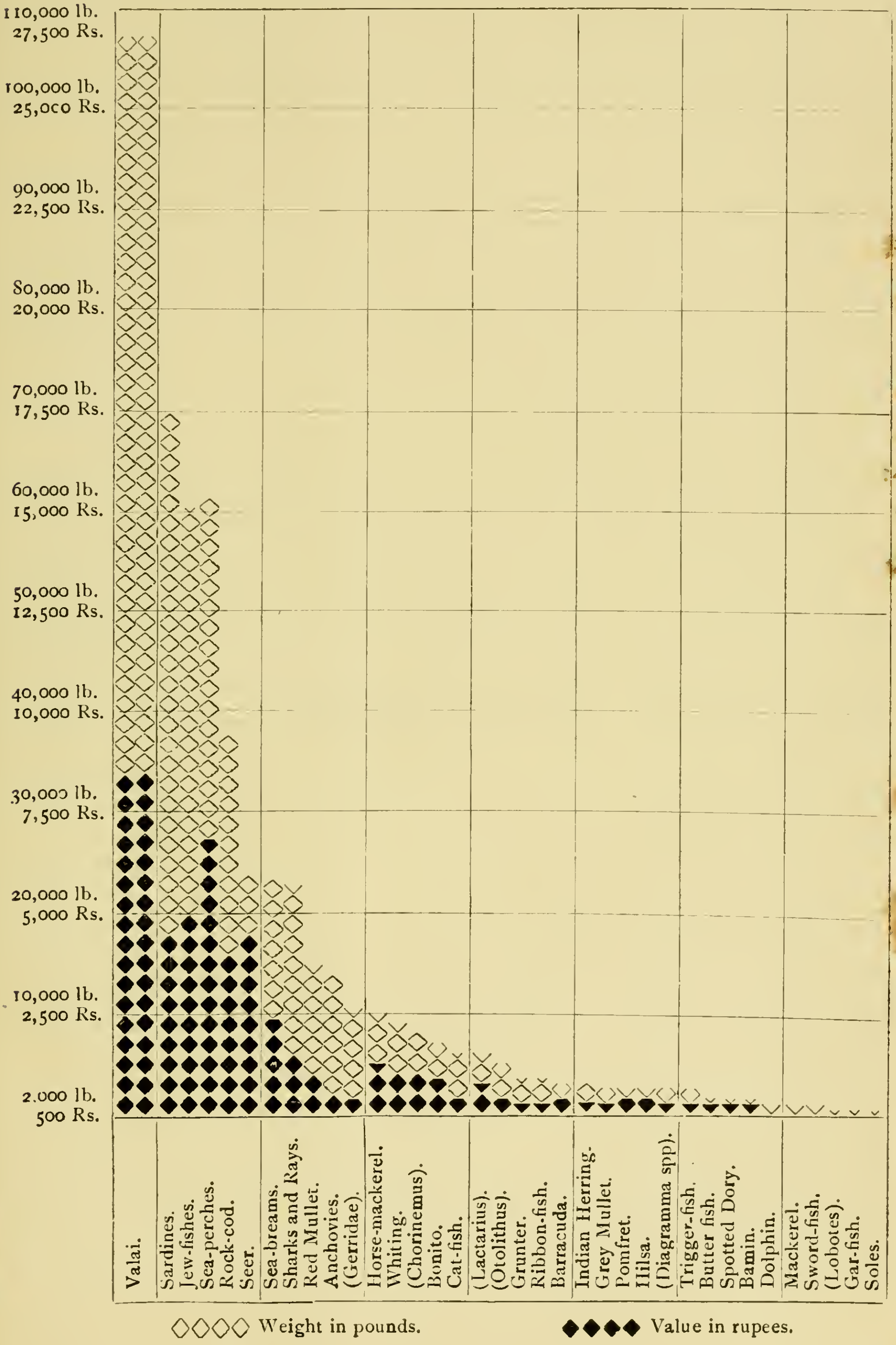
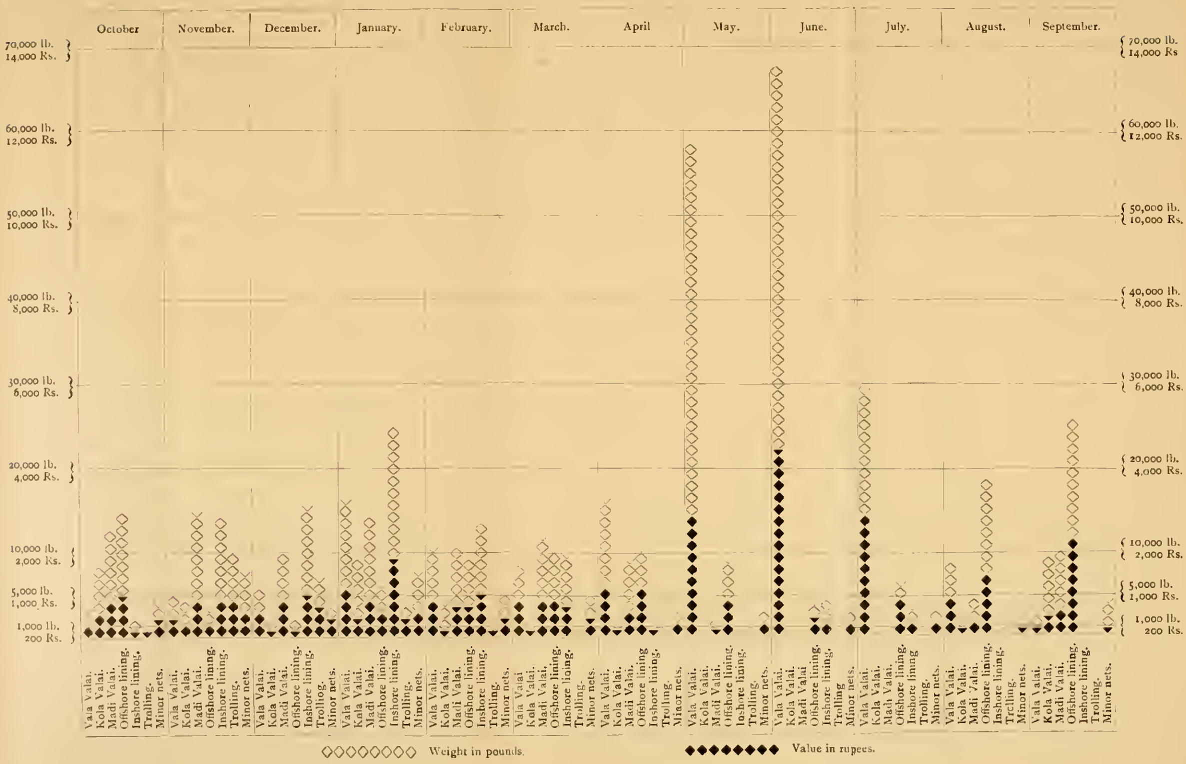


TABLE IX.—Diagram showing graphically the seasons and relative productive value of the seven principal methods of fishing practised off Tuticorin, based on the averages of four years' records, 1911—15.



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